REPORT OF THE
JOINT SUBCOMMITTEE STUDYING

The Regulation Of Engineers, Architects, And Land Surveyors And The Exemption From Licensure Of Employees Of The Commonwealth And Its Localities

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

HOUSE DOCUMENT NO. 61

COMMONWEALTH OF VIRGINIA
RICHMOND
1990

MEMBERS OF THE JOINT SUBCOMMITTEE

Alan E. Mayer, *Chairman*
Frank W. Nolen, *Vice Chairman*
James F. Almand
Robert L. Calhoun
V. Earl Dickinson
Robert E. Russell
Alson H. Smith, Jr.
Robert C. Gibson
William F. LaVecchia
Carolyn J. Moss, *Ex Officio*
Eva S. Teig, *Ex Officio*
Vivian E. Watts, *Ex Officio*

STAFF

Division of Legislative Services

Angela P. Bowser, *Staff Attorney*
Jane C. Lewis, *Executive Secretary*

Administrative and Clerical

Lois V. Johnson, *House of Delegates Clerk's Office*

TABLE OF CONTENTS

Report of the Joint Subcommittee Studying the Regulation of Engineers, Architects, and Land Surveyors and the Exemption from Licensure of Employees of the Employees of the Commonwealth and Its Localities

Richmond, Virginia
January, 1990

TO: The Honorable Lawrence Douglas Wilder, Governor
and
The General Assembly of Virginia

INTRODUCTION

House Joint Resolution No. 408, agreed to during the 1989 Session of the General Assembly, established a joint subcommittee to study the proper role of licensure of engineers, architects, and land surveyors in responsible positions employed by the Commonwealth and its political subdivisions.

House Joint Resolution No. 408

Establishing a joint subcommittee to study the regulation of engineers, architects and land surveyors and the exemption from licensure of employees of the Commonwealth and its localities.

Agreed to by the House of Delegates, February 24, 1989
Agreed to by the Senate, February 23, 1989

WHEREAS, the Commonwealth believes that it should protect the health, safety and general welfare of the public whenever necessary; and

WHEREAS, the Commonwealth believes that ensuring the competence of professionals who are government employees including engineers, architects and land surveyors is one means of affording the public such protection; and

WHEREAS, questions have been raised concerning the proper role of licensure of engineers, architects and land surveyors employed by the Commonwealth and its political subdivisions; and

WHEREAS, § 54.1-401.6 of the Code of Virginia exempts engineers, architects and land surveyors employed by the Commonwealth and its localities from licensure; and

WHEREAS, the only other states which exempt all state engineers are Vermont and South Dakota, and the only other states which exempt all local government engineers are Vermont, South Dakota and Colorado, all other states having some licensure requirement; and

WHEREAS, this exemption may need to be altered if it can be demonstrated that such licensure will have a positive impact on the protection of the public's health, safety and general welfare; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That a joint subcommittee be established to study the proper role of licensure of engineers, architects and land surveyors in responsible positions employed by the Commonwealth and its political subdivisions, and whether to amend the provisions of § 54.1-401.6 of the Code of Virginia; and be it

RESOLVED FURTHER, That the joint subcommittee shall consist of nine members as follows: four members of the House of Delegates, including two members from the House General Laws Committee, all to be appointed by the Speaker of the House of Delegates; and three members of the Senate to be appointed by the Senate Privileges and Elections Committee. The Governor shall appoint two members, one of whom shall represent the engineering community and one of whom shall represent local government. The Secretary of Health and Human Resources and the Secretary of Transportation and Public Safety or their designees shall serve as ex-officio members of the joint subcommittee; and, be it

RESOLVED FINALLY, That all state agencies which employ engineers, architects and land surveyors, including but not limited to, the Departments of Commerce, General Services, Transportation, Personnel and Training, Health, Mines, Minerals and Energy, Waste Management, and Air Pollution Control, the State Council of Higher Education and the State Water Control Board be directed to cooperate with the joint subcommittee and to provide information and assistance needed by the joint subcommittee in the course of its study.

The joint subcommittee shall complete its work in time to submit its findings and recommendations to the 1990 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for processing legislative documents.

The indirect costs of this study are estimated to be $10,860; the direct costs of this study shall not exceed $6,480.

The resolution provided that the Subcommittee would be composed of four members of the House of Delegates, including two members of the House General Laws Committee, three members of the Senate and two citizen members. Legislative members appointed to serve on the Subcommittee were Delegate Alan A. Mayer, the sponsor of the legislation, Delegate James F. Almand, Senator Robert Calhoun, Delegate V. Earl Dickinson, Senator Frank W. Nolen, Senator Robert E. Russell, and Delegate Alson H. Smith, Jr. Mr. Robert C. Gibson and Mr. William F. LaVecchia were appointed as citizen members to the Subcommittee by the Governor. Carolyn Jefferson Moss, Secretary of Administration, Eva Teig, Secretary of Health and Human Resources, and Vivian E. Watts, Secretary of Transportation and Public Safety, served as ex officio members of the Subcommittee.

At its first meeting, held on July 6, 1989, the Subcommittee elected Delegate Alan E. Mayer Chairman and Senator Frank W. Nolen Vice-Chairman.

EXECUTIVE SUMMARY

The Subcommittee established pursuant to House Joint Resolution No. 408 *(1989)* examined the issues, both pro and con, involved with the elimination of the engineering, architecture, and land surveying licensure exemption for state and local government employees. The General Assembly established over a half century ago that the licensure of engineers, architects, and land surveyors was necessary for the preservation of the health, safety, and welfare of the public and required such persons to become licensed. The Subcommittee recognizes that while licensure does not guarantee that mistakes will not be made, it does ensure that an individual has achieved a minimum level of competence for engaging in a particular profession.

The Subcommittee's recommendations and proposed legislation will not require every individual employed by a state or local government agency with a title classification of "engineer," "architect," or "land surveyor" to become licensed. Only those employees in responsible charge positions engaged in the practice of engineering, architecture, or land surveying will be required to obtain a license. In addition, the Subcommittee has protected nearly all government workers from the licensure requirement by extending their licensing exemption through a "grandfather" provision. This provision allows any government employee engaged in the practice of engineering, architecture, or land surveying as a regular, full-time, salaried employee of the Commonwealth or any political subdivision of the Commonwealth on June 30, 1990, who remains employed by the same state agency or political subdivision, to be exempt from the licensure requirement until June 30, 2010. If the licensure requirement for government employees were implemented immediately, there could be some costs implications for state and local governments. However, any near-term cost has been eliminated by the twenty-year "grandfather" period.

The Subcommittee determined that many of the government employees, especially on the state level, have been classified with engineering titles although their jobs do not conform to the definition of the practice of engineering in § 54.1-400. Due to the licensure exemption, insufficient attention has been paid to the job classifications of many state employees. As a result, non-college-educated persons have been paid salaries by some state agencies equal to salaries paid to their professional engineers. The study has revealed that reclassification is necessary and that some state agencies affected by this study have reclassified their employees by titling only those persons actually performing professional engineering services as engineers. This measure may in fact provide a savings to the Commonwealth by drawing attention to the need for reclassification and salary restructuring.

The legislation being proposed by the Subcommittee has been made as permissive as possible to assist state and local government agencies in conforming to the licensure requirement.

Persons practicing as professional engineers, whether in the public or private sector, exercise similar types of technical judgments. A uniform set of standards for the practice of professional engineering is required, regardless of whether the engineer works in the public or private sector. Since it has been determined that an engineering license is required to protect the health, safety, and welfare of the public, a majority of the Subcommittee determined that the government employee licensure exemption cannot be justified in today's world where a more urban environment, accelerated public works improvements, and large public investments make public health and safety more dependent on professional expertise.

ACTIVITIES AND BACKGROUND

Meetings.

The Subcommittee conducted six meetings during 1989. The meeting dates were July, 1989, August 21, 1989, October 19, 1989, September 18, 1989, November 21, 1989, and December 20, 1989. A special task force was also created. It conducted one meeting, which was held on December 7, 1989.

Previous Studies.

The Subcommittee determined that there have been several studies pertaining to engineering conducted during the 1980's. However, these studies focused on the educational aspect of the engineering profession. In 1980, legislation *(House Bill No. 419)* was passed which prompted the Council of Higher Education to study the need for graduate instruction and continuing education in engineering. A report was issued as House Document No. 23 *(1981)*. Senate Joint Resolution No. 5 *(1983)* established a joint subcommittee to examine methods for maintaining high quality engineering programs in its public institutions of higher education. A report was issued in 1984 as Senate Document No. 15. The study was continued in 1984 by Senate Joint Resolution No. 10. Senate Joint Resolution No. 35, also from 1984, directed the State Council of Higher Education to develop a formula to fund the acquisition and replacement of equipment for engineering programs.

House Joint Resolution No. 275 *(1979)* established a joint subcommittee to study the selection process for architects and engineers for capital projects for the state. The joint subcommittee issued its report as House Document No. 36 in 1980.

None of these studies addressed the licensure exemption issue.

Professional Regulation.

Both the *Code of Virginia* and Board regulations specify requirements for engineers, architects, land surveyors, and landscape architects.

In the general provisions of Title 54.1 of the *Code of Virginia* pertaining to professions and occupations, § 54.1-100 states that

> **"The right of every person to engage in any lawful profession, trade or occupation of his choice is clearly protected by both the Constitution of the United States and the Constitution of the Commonwealth of Virginia. The Commonwealth cannot abridge such rights except as a reasonable exercise of its police powers when it is clearly found that such abridgment is necessary for the preservation of the health, safety and welfare of the public."**

Section 54.1-100 also provides that no regulation will be imposed upon any profession or occupation except for the exclusive purpose of protecting the public interest when (i) the unregulated practice of the profession or occupation can harm or endanger the health, safety or welfare of the public, and the potential for harm is recognizable and not remote or dependent upon tenuous argument; (ii) the practice of the profession or occupation has inherent qualities peculiar to it that distinguish it from ordinary work and labor; (iii) the practice of the profession or occupation requires specialized skill or training, and the public needs and will benefit by assurances of initial and continuing professional and occupational ability; and (iv) the public is not effectively protected by other means.

Architects, professional engineers, land surveyors, and landscape architects are regulated by the Board for Architects, Professional Engineers, Land Surveyors and Landscape Architects within the Department of Commerce as provided in Chapter 4 *(§ 54.1-400 et seq.)* of Title 54.1. Section 54.1-403 provides that the Board will be composed of three architects, three professional engineers, three land surveyors, and two certified landscape architects for a total of eleven members. Prior to appointment, board members must have actively practiced or taught their professions for at least ten years.

Section 54.1-406 requires a person to possess a license to practice as a professional engineer or an architect when that practice includes design, consultation, evaluation, or analysis and involves proposed or existing improvements to real property. The section also requires a land surveyor to be licensed. A certificate is required of persons wishing to practice as landscape architects. Board regulations set out the specific qualifications and requirements for examination and licensure of professional engineers, architects, and land surveyors.

The qualifications for licensing of professional engineers are found in Part III of the Board regulations. Section 3.4 of the regulations requires an applicant for a professional engineering license to submit three references with the application. The professional engineers providing the references must be licensed professional engineers in some state or territory of the United States and must have personal knowledge of the applicant's engineering experience. In addition, the professional engineers must have known the applicant for at least one year. Section 3.5 provides that applicants for the fundamentals-of-engineering examination only must provide one reference from a professional engineer or from the dean of the engineering school or a departmental professor in the school attended by the applicant, or an immediate work supervisor. The reference must be provided by a person who has known the applicant for at least one year.

The education, experience, and examination requirements for engineering intern status are listed in § 3.6 of the regulations. It provides that:

1. An applicant who has graduated from an approved engineering or approved engineering technology curriculum of four years or more shall pass an eight-hour written examination in the fundamentals of engineering; or

2. An applicant who is a graduate of an engineering or related science curriculum of four years or more, other than one approved by the board, and with a specific record of two or more years of approved professional experience on engineering projects of a grade and character satisfactory to the board shall pass the fundamentals-of-engineering examination; or

3. An applicant who is a graduate of a nonapproved engineering technology program or who is not a graduate of an engineering or related science curriculum of four years or more but who, in the judgment of the board, has obtained the equivalent of such graduation by self-study or otherwise, and who has acquired six additional years of board-approved professional experience on engineering projects, shall pass the fundamentals - of engineering - examination. Experience used to determine education equivalency shall not be used in satisfying professional experience.

Section 3.7 gives the following requirements for professional engineering licensure:

1. An applicant who has graduated from an approved engineering curriculum, who has passed the fundamentals-of-engineering examination or an equivalent exam, and who has a specific record of at least four years of progressive professional experience, shall pass the principles and practice of engineering examination; or

2. An applicant who has graduated from an engineering or a related science curriculum of four years or more, other than one approved by the board, or an approved engineering technology curriculum, who has passed the fundamentals-of-engineering examination or an equivalent exam, and who has acquired a specific record of at least six years of progressive professional experience shall pass the principles and practice of engineering examination; or

3. An applicant who is not a graduate of an approved engineering curriculum of four years or more but who has obtained the equivalent of such graduation by self-study or otherwise, who has passed the fundamentals-of-engineering examination and who has acquired 10 years of approved professional experience shall pass the principles and practice of engineering examination. Experience used to determine educational equivalency is not to be used in satisfying professional experience; or

4. An applicant who has graduated from an engineering or related science curriculum of four years or more and who has acquired a specific record of 20 years or more of board-approved professional experience on engineering projects, of which at least 10 years have been in responsible charge of important engineering projects and of a grade and character which the board judges to be pertinent to acquiring professional skills, such that the applicant may be competent to practice engineering, shall pass the examination in the principles and practice of engineering; or

5. An applicant who has graduated from an engineering or related science curriculum of four years or more and who has acquired a specific record of 30 years or more of board-approved professional experience on engineering projects, of which at least 20 years have been in positions of responsible charge of important engineering projects and of a grade and character which the board judges to be pertinent to acquiring professional skills, demonstrating that the applicant is eminently qualified to practice engineering, shall pass a special oral examination which indicates to the board that the applicant is eminently qualified to practice engineering. If the board has any doubt concerning an applicant's eminent qualifications, the applicant shall be reclassified as an advanced professional engineer candidate.

Section 3.9 states that professional engineering training and experience shall be progressive in complexity and based on a knowledge of engineering mathematics, physical and applied sciences, properties of materials, and fundamental principles of engineering design. The regulation lists specific activities which are considered nonqualifying experience and other activities which may be deemed as professional experience. Excerpts from the Board regulations pertaining to the licensing qualifications for architects, professional engineers, and land surveyors are included in **Appendix I**.

Although state law requires persons engaged in the practice of architecture, engineering, landscape architecture, and land surveying to be licensed or certified, the General Assembly has also provided several exemptions to these requirements. Exemptions from the chapter and from licensure requirements are contained in §§ 54.1-401 and 54.1-402 of the *Code of Virginia.*

There are eight listed exemptions from licensure in § 54.1-401:

1. Practice of professional engineering and land surveying by a licensed architect when such practice is incidental to what may be properly considered an architectural undertaking.

2. Practice of architecture and land surveying by a licensed professional engineer when such practice is incidental to an engineering project.

3. Practice as a professional engineer, architect, land surveyor or certified landscape architect in this Commonwealth by any person not a resident of and having no established place of business in this Commonwealth, or by any person resident in this Commonwealth whose arrival is recent, provided that such person is legally qualified for such professional service in another state or country and files within fifteen days after commencement of such practice an application, with the required fee, for licensure as a professional engineer, architect or land surveyor or certification as a landscape architect. The exemption shall continue until the board has had sufficient time to consider the application and grant or deny licensure or certification.

4. Engaging in the practice of professional engineering as an employee under a licensed professional engineer, engaging in the practice of architecture as an employee under a licensed architect, or engaging in the practice of land surveying as an employee under a licensed land surveyor; provided, that such practice shall not include responsible charge of design or supervision.

5. Practice of professional engineering, architecture or land surveying solely as an employee of the United States. However, the employee shall not be exempt from other provisions of this chapter if he furnishes advisory service for compensation to the public in connection with engineering, architectural or land surveying matters.

6. Practice of professional engineering, architecture or land surveying as a regular full-time, salaried employee of this Commonwealth or any political subdivision thereof; provided that such person does not furnish advisory service for compensation to the public or as an independent contracting party in this Commonwealth or any political subdivision thereof in connection with engineering, architectural or land surveying matters.

7. Practice of architecture or professional engineering by an individual, firm or corporation on property owned or leased by such individual, firm or corporation, unless the public health or safety is involved.

8. Practice of engineering solely as an employee of a corporation engaged in interstate commerce, or as an employee of a public service corporation, by rendering such corporation engineering service in connection with its facilities which are subject to regulation by the State Corporation Commission; provided, that corporation employees who furnish advisory service to the public in connection with engineering matters other than in connection with such employment shall not be exempt from the provisions of this chapter.

Section 54.1-402 further exempts from the architects and professional engineers licensing requirements persons who prepare plans, specifications, documents, and designs *(provided that they bear the name and address of the author and his occupation)* for certain listed buildings, electric installations, and plumbing and mechanical systems.

Preliminary research submitted to the Subcommittee indicated that thirty state agencies, including universities, had been identified as employing persons classified as engineers or architects. The largest number of such employees, approximately 663, were identified as employees for the Virginia Department of Transportation. The State Water Control Board ranked second with 74, the Department of Health third *(if state universities are excluded)* with 55, the Department of General Services fourth with 41, and the Department of Air Pollution Control fifth with 36. These figures were obtained from the Department of Personnel and Training as discussed on page 16 of this report.

Since the exemption also affected architects and land surveyors, the Subcommittee realized that it would also have to consider the effect of the repeal of the exemption on these professions as well. The effect on local government employees would also have to be determined.

The Subcommittee determined that any change in the exemption status for state and local government employees must be thoroughly examined as to its fiscal impact.

ISSUES

The Subcommittee developed a set of issues to be explored during the study. State and local agencies representing entities which employed engineers, architects and land surveyors, state and local government officials, trade and professional organizations, private citizens, and licensees of the Board for Architects, Professional Engineers, Land Surveyors and Landscape Architects participated in the meetings of the Subcommittee.

The issues considered by the Subcommittee during its deliberations included:

1. What is the relationship of licensure with the engineering profession? How is the relationship working? Is there a need for continuing education of licensees? Is it necessary for state and local governments to employ licensed engineers? What benefits will the Commonwealth and its localities realize by the elimination of the current licensing exemption for government employees? Have there been any specific incidents which prompted the proposal to eliminate the licensing exemption?

2. Should the elimination of the licensing exemption for government employees be limited to engineers or should the exemption for government architects and land surveyors also be eliminated?

3. Is the definition of "responsible charge" proposed in House Bill No. 1355 *(1989)* consistent with the application of that term by the Department of Commerce and the Board for Architects, Professional Engineers, Land Surveyors and Landscape Architects in interpreting subdivision 4 of § 54.1-401 and Board regulations?

4. How many state and local government employees would be adversely affected by the elimination of the licensure exemption and the implementation of the "responsible charge" standard? How many state and local government employees are currently in "responsible charge" positions? What are the advantages and disadvantages of the proposals on both the state and local levels? What are the fiscal implications of the proposals?

5. Will this proposal *(elimination of the exemption)* have an adverse effect on state and local government recruitment?

6. Should certain state and local agencies be granted specific exemptions from the licensing requirement for their employees?

7. Should limited or special licenses be issued for public sector employees?

FINDINGS

A brief discussion of each issue and the Subcommittee findings follow.

Issue 1: What is the relationship of licensure with the engineering profession? How is the relationship working? Is there a need for continuing education of licensees? Is it necessary for state and local governments to employ licensed engineers? What benefits will the Commonwealth and its localities realize by the elimination of the current licensing exemption for government employees? Have there been any specific incidents which prompted the proposal to eliminate the licensing exemption?

As in all professions regulated by the Commonwealth of Virginia in Title 54.1, the General Assembly considered it a reasonable exercise of the Commonwealth's police powers to regulate engineers for the preservation of the health, safety, and welfare of the public. As stated in § 54.1-100, a profession regulated by the Commonwealth must have inherent qualities peculiar to it that distinguish it from ordinary work and labor. The profession must also require specialized skill or training, and the public needs, and will benefit by, assurances of initial and continuing professional and occupational ability.

The Board for Architects, Professional Engineers, Land Surveyors and Landscape Architects administers the examinations for the professions it regulates and also is responsible for disciplining its regulants. The Board Administrator provided the following information to the Subcommittee regarding the Board's examination and disciplinary proceedings.

Generally, in order to obtain a license as a professional engineer in Virginia, a qualified applicant must take and pass the Fundamentals of Engineering *(FE)* and the Principles and Practice of Engineering *(PE)* examinations. Both the FE and PE examinations are national examinations developed by the National Council of Examiners for Engineers and Surveyors *(NCEES)*. The Virginia Board for Architects, Professional Engineers, Land Surveyors, and Landscape Architects is a member of NCEES as are fifty-eight other regulatory boards in the territories, jurisdictions, and states of the United States.

The Fundamentals of Engineering examination *(a national exam)* has been administered since May 1965 and is currently administered twice yearly. It is an eight-hour examination in multiple-choice format, designed to test an individual's level of knowledge in basic and engineering sciences. The majority of examinees taking the FE examination are seniors or recent graduates of four-year baccalaureate programs.

Since 1969, Education Testing Service *(ETS)* has been under contract with NCEES to develop, administer, and score the FE. This service and NCEES periodically review the content, format, and the purposes of the FE. The examination consists of a morning section with 140 questions in thirteen content areas *(dynamics, mechanics of materials, electrical circuits, structure of matter, statics, fluid mechanics, computer programming, engineering economics, chemistry, thermodynamics, mathematics, materials science and mathematical models)*. The afternoon section consists of fifty questions which all candidates are required to answer, and a section containing five ten-item sets in different content areas from which a candidate must choose two sets to answer. The morning and afternoon sessions carry equal weight; the total number of points possible on the exam is 280. A minimum passing score was set at 138 points, which converts to seventy on a scale of 100.

The national PE examination has been administered since December 1966 and is currently administered twice yearly. It is an eight-hour examination in problem and multiple choice format. Examinees must work a total of eight out of twenty or twenty-four problems in the examination period, in one of the following disciplines: Aeronautical/Aerospace, Agricultural, Ceramic, Chemical, Civil, Sanitary/Structural, Electrical, Fire Protection, Industrial, Manufacturing, Mechanical, Metallurgical, Mining/Mineral, Nuclear, and Petroleum. The majority of examinees taking the PE examination have had at least four years of professional experience.

The National Council develops and scores the PE exam. A criterion-referenced method of scoring each exam is used, whereby a minimum passing score on each individual problem is established. On a scale of 0-10, minimally competent performance will receive a score of 6. Scores between 6 and 10 are passing; a score of 5 or lower is considered failing. To pass the exam, a candidate must average 6 or higher on his choice of 8 problems, or a raw score of 48 out of a possible 80 points. This score is then converted to a scale of 100, with 70 being the minimum passing score.

Statistics for the last six administrations of these examinations follow.

FE STATISTICS

	OCT 86	APR 87	OCT 87	APR 88	OCT 88	APR 89
NATIONWIDE NO.	16,088	26,268	16,605	25,775	17,487	26,880
% Passing	63.9%	67.9%	58.6%	66.5%	55.0%	65.1%
VIRGINIA NO.	421	1,072	491	1,245	533	1,100
% Passing	54.6%	72.9%	48.9%	71.8%	49.3%	67.9%

PE STATISTICS

	OCT 86	APR 87	OCT 87	APR 88	OCT 88	APR 89
NATIONWIDE NO.	10,611	12,416	11,109	11,801	12,310	12,538
% Passing	33%	60%	48%	44%	53%	53%
VIRGINIA NO.	412	513	420	476	516	508
% Passing	28.6%	66.7%	52.4%	44.5%	62.4%	57.5%

Regarding regulation of licensees, the Enforcement Division of the Department of Commerce receives written complaints concerning licensed and unlicensed practice. A complaint is reviewed to determine if it falls within the Board's jurisdiction. If so, an investigation is conducted. Upon completion of the investigation, a written report and investigative file are sent to the Board. The Board then reviews the file to determine whether a statutory or regulatory violation may have occurred. If evidence of a violation does exist, the Board may take appropriate disciplinary action, in accordance with the Administrative Process Act, to suspend, revoke, or fail to renew the license, or impose a fine. The Board has no other powers. The Board cannot compel payment of damages or restitution.

During the recodification of Title 54, § 54.1-103 was added to the Code. It pertained to regulatory boards within the Department of Commerce and the Department of Health Regulatory Boards and provided that the individual regulatory boards would be empowered to promulgate regulations specifying additional training or conditions for individuals seeking certification or licensure or the renewal of certificates or licenses. The Director of the Department of Commerce submitted to the Subcommittee the policy regarding continuing education which had been adopted by the Board of Commerce. The policy has been attached as **Appendix II**.

In discussing the merits of eliminating the exemption from licensure for state and local government employees, opponents maintained that licensure did not indicate or guarantee competence. Once a practitioner is licensed, the current regulatory process contains no future requirement to demonstrate competency to the Commonwealth or to continue professional development or education. Proponents argued that the elimination would provide for a uniform set of standards for engineers, architects, and land surveyors employed in either the public or private sector. It was observed that persons in the legal and medical professions employed by government entities are required to be licensed and that the public's perception of unlicensed government employees would be enhanced upon licensure. Engineers in both the private and public sector exercise similar professional judgments in their job performances. Proponents of the elimination of the licensure exemption felt no justification exists today for the continuation of such an exemption, especially since the work products of the exempted employees are used daily by the citizens of the Commonwealth. Rapid transformation into a more urban environment, accelerated public works improvements, and large public investments make public health and safety more dependent on professional expertise then in previous decades. Proponents feel that licensure is an effective means of screening those who can or cannot meet minimum professional standards.

Issue 2: Should the elimination of the licensing exemption for government employees be limited to engineers or should the exemption for government architects and land surveyors also be eliminated?

The Subcommittee determined that any decision made regarding the licensure exemption for engineers would also apply to architects and land surveyors. Representatives of professional organizations composed of architects and land surveyors appeared before the Subcommittee requesting the elimination of the licensure exemption for state and local government employees engaged in the practice of engineering, architecture, and land surveying.

Issue 3: Is the definition of "responsible charge" proposed in House Bill No. 1355 (1989) consistent with the application of that term by the Department of Commerce and the Board for Architects, Professional Engineers, Land Surveyors and Landscape Architects in interpreting subdivision 4 of § 54.1-401 and Board regulations?

The Subcommittee determined that the definition of "responsible charge" contained in House Bill No. 1355 from the 1989 Session of the General Assembly was too detailed, complex, and specific. Testimony from interested parties indicated support for a simpler definition and many preferred the definition for that term adopted by the National Council of Examiners for Engineering and Surveying Mode Law. Representatives of the Board for Architects, Professional Engineers, Land Surveyors and Landscape Architects also endorsed the definition adopted by the National Council.

A member of the Board and the Engineering Section Chair informed the Subcommittee that the Board was developing a definition of "responsible charge" to include in the Board's regulation. It was noted that the Board's decision to add a definition of "responsible charge" to the regulations was not related to the Subcommittee's study. The Board modified the National Council's definition to include references to architecture and land surveying. According to the Board, "responsible charge" provides that "responsible charge" means the direct control and personal supervision of the practice of architecture, professional engineering, and/or land surveying.

The Subcommittee endorsed the definition proposed by the Board with one amendment: to delete "personal" from the definition. The Subcommittee's definition of responsible charge follows: "Responsible charge" means the direct control and supervision of the practice of architecture, professional engineering, or land surveying.

Issue 4: How many state and local government employees would be adversely affected by the elimination of the licensure exemption and the implementation of the "responsible charge" standard? How many state and local government employees are currently in "responsible charge" positions? What are the advantages and disadvantages of the proposals on both the state and local levels? What are the fiscal implications of the proposals?

As stated previously, preliminary research submitted to the Subcommittee indicated that thirty state agencies, including universities, had been identified as employing persons classified as architects or engineers. The largest number of such employees, approximately 663, were identified as employees for the Virginia Department of Transportation. The State Water Control Board ranked second with 74, the Department of Health third *(if state universities are excluded)* with 55, the Department of General Services fourth with 41, and the Department of Air Pollution Control fifth with 36.

The Subcommittee obtained assistance from the Department of Personnel and Training in estimating the number of state employees who could be affected by the elimination of the licensure exemption. Karen Washabau, Acting Director of the Department of Personnel and Training, reported on the results of a survey the Department had conducted to gather data regarding engineers and architects in state government. The report indicated that the Department accepted and relied on the information reported by the agencies. Therefore there was no review to check the accuracy of the information which was reported as a response to the survey. Land surveyors were not included in the results because the Department received only a few, incomplete responses pertaining to that profession. The Subcommittee was informed of the difficulty many agencies had in responding to the survey. The reason cited for the difficulty was that the definition for "responsible charge" was less precise than needed. The survey yielded the following information which was reviewed at the August 21, 1989, meeting of the Subcommittee.

Occupation	Employees	Licensed	Degreed
Engineers	1141	190 (17%)	511 (45%)
Architects	61	33 (54%)	50 (82%)

Employees Eligible for Licensure

Occupation	Licensed	Eligible	Ineligible
Engineers	190 (17%)	280 (25%)	671 (59%)
Architects	33 (54%)	13 (21%)	15 (25%)

Unlicensed State Personnel in Responsible Charge Positions

Occupation	No. in Respon. Charge	Eligible	Ineligible
Engineers	631	181 (29%)	450 (71%)
Architects	11	8 (73%)	3 (27%)

Ms. Washabau concluded her remarks on this portion of the survey by noting that the licensure survey of agencies and universities having engineers revealed that a significant number of employees will be affected negatively by removal of the exemption for licensure of engineers. Eighty-three percent *(951)* of the engineers are not licensed and 59% are ineligible to become licensed. Seventy-one percent of the nonlicensed "responsible charge" positions are ineligible to become licensed.

The information referred to above is a compilation of the material the Department of Personnel and Training submitted at the August 21 meeting. The Subcommittee did not adopt a definition of "responsible charge" until its November 21, 1989. Therefore, the definition for "responsible charge" the agencies used in determining the number of persons who might be affected by the removal of the licensure exemption in responding to the survey in August was probably **not** the definition finally adopted by the Subcommittee. **Appendix III** contains the information reported to the Subcommittee by the Department of Personnel and Training in a breakdown, by agency, of the number of employees who could be potentially affected by the removal of the licensure exemption. The breakdown also indicates the number of employees of those identified as being possibly affected, who are licensed or degreed. Also included in Appendix III is information submitted by the Department of Health.

The Subcommittee requested the Department of Personnel and Training to provide additional data regarding the number of degreed engineers who were not licensed because they lacked the necessary work experience. The Department reported that of the 671 engineers who were ineligible for licensure, seventy-three were degreed but lacked the necessary work experience for licensure. When the degreed employees were included with those currently licensed or eligible for licensure, the Department concluded that 48% of the engineers would not be affected by the removal of the licensure exemption. Of the fifteen architects found to be ineligible for licensure, eleven were degreed but lacked the necessary work experience. When added to the number of employees currently licensed or eligible, the Department determined that 93% of the architects would not be affected by the removal of the licensure exemption. **Appendix IV** contains statistics pertaining to this additional information.

The Subcommittee also asked the Department to isolate certain information pertaining to the Department of Transportation. The Department reported that an analysis of the data clearly indicated that the Department of Transportation would experience the most impact from the elimination of the licensure exemption. **Appendix V** illustrates the total responsible charge, licensed and not licensed, for two categories, the Department of Transportation and other agencies. It also contains the total responsible charge not licensed, those eligible and ineligible, for the Department of Transportation and other agencies.

It must be emphasized that it became apparent to the members of the Subcommittee, during the course of the study, that many of the employees classified by the state as "engineers" do not perform professional engineering work. Because of salary restrictions on some technician positions and the availability of the licensure exemption, some agencies have reclassified technician titles to engineering positions to gain salary improvements. The job title classifications contained in Appendix III attest to this fact. This point was raised during several of the Subcommittee's meetings. It was stated that this concern would be addressed by the reclassification of some of the jobs.

The Department of Personnel and Training also obtained information for consideration of the Subcommittee members regarding the state compensation paid by several of the surrounding states. The states of North Carolina, South Carolina, Georgia, Florida, Tennessee, Maryland, and Kentucky were surveyed. The survey indicated that Virginia is competitive with other southeastern states in salary for all levels of engineers. The Department reported that Virginia is also competitive with the survey states requiring licensure of their management level positions. Only one-third of the states surveyed required licensure of their management level employees, but all states required licensure for persons taking responsibility for professional engineering decisions. The Subcommittee was also informed that Virginia's state government salary levels lagged behind the private market for supervisory and management engineers. See **Appendix VI** for the results of the engineering compensation survey.

The Subcommittee also requested the Department to prepare a compensation comparison of those states requiring a license with the compensation of Virginia. The Department reported that the data collected revealed that few of the southeastern states surveyed required licensure of their transportation and environmental engineers. The salary paid by Virginia to its engineers was found to be very competitive with and in some cases exceeded the salaries of those states which do require licensure. **Appendix VII** contains a chart of this information.

The Subcommittee obtained the assistance of the Virginia Association of Counties and the Virginia Municipal League in surveying their membership pertaining to the potential impact of the elimination of the licensure exemption for local government employees. The Virginia Association of Counties reported that of the ninety-three localities contacted, thirty-six responded to the survey. Twenty-one of the thirty-six indicated that they had employees in positions which required the responsible charge of engineering decisions. Sixteen counties predicted that there would be a first year fiscal impact if the licensure exemption were removed. Fifteen of the sixteen counties estimated the cost to range between $2,000 and $1 million. The estimates appeared to correlate in a fairly consistent manner with the size of the county. The Association concluded from the information contained in the responses that the larger, more urbanized counties employ larger engineering staffs and therefore would be affected by removal of the exemption and that the smaller counties enter into contracts for many or all of their projects and in most instances would not be affected by removal of the exemption. Concerns expressed by members of the Association included (i) recruitment problems if employees are required to be licensed since it is currently difficult to recruit four-year engineer graduates; (ii) the additional money which will be required to upgrade positions and to hire professional engineers; and (iii) the possible requirement that department managers be professional engineers.

Mr. Land was questioned by members of the Subcommittee regarding some of the estimates listed in the survey results. He was also requested to obtain from rural counties the salaries of engineers who are not licensed. As with the monetary estimates pertaining to state employees, the information obtained from the localities was not based on the draft legislation which was proposed by the Subcommittee's task force. A copy of the Association's report on the survey and the survey results are contained in **Appendix VIII**.

The Virginia Municipal League *(VML)* reported that the results of its survey were consistent with the results obtained in a survey it conducted in 1988. Members responding to VML's survey reported 457 persons in responsible charge. Half of those responding also indicated that there would be a fiscal impact if professional engineers were required to be placed in the responsible charge positions. It was estimated that the projected cost for the first year of the professional engineer requirement would be $2.63 million. Questions were raised regarding the high estimates submitted by a minority of the responding localities. It was noted that the League compiled the information submitted to it for the Subcommittee's review and did not require verification of any estimates. Again, this information was submitted to the Subcommittee prior to the development of the proposed legislation and the estimates were not based on any consideration of the specific proposed legislation. The results of the Virginia Municipal League's survey have been included in **Appendix IX**.

It should also be noted here that the definition used for "responsible charge" in the survey was not the definition the Subcommittee adopted at the November 21 meeting. In addition, the proponents of the elimination of the licensure exemption for state and local government employees argued that the survey results pertaining to localities may have been biased in that the phrasing of the questions on one of the surveys invited a judgmental rather than a factual response.

Subcommittee staff conducted a survey of localities in the neighboring states of Maryland, Kentucky, North Carolina, and Tennessee. The salary ranges of those localities which employed engineers as salaried employees on a regular, full-time basis indicated that Virginia's salaries for its local government engineers are very competitive. **Appendix X** contains the results of the survey.

The Subcommittee established a task force which met on December 6, 1989. Two specific charges to the task force by the Subcommittee were the consideration of the cost impact of the proposal and the grandfathering provision. Representatives of local governments, state agencies, and trade and professional organizations were in attendance and participated during the work session. They included representatives of the Virginia Department of Transportation, the Virginia Municipal League, the Virginia Association of Counties and Fairfax County, the Department of Personnel and Training, the Virginia Society of Professional Engineers, the Secretary of Transportation and Public Safety, the Office of the Secretary of Administration, the Office of Water Programs of the Department of Health, Henrico County, Chesterfield County, and the Division of Building and Grounds of the Department of General Services.

The Secretary of Transportation and Public Safety, Vivian Watts, presented specific issues she wanted contained in the legislation, all of which were substantially agreed to by the task force. They included a designation by the state or local government agency head of the persons serving in responsible charge positions. After discussion, the task force participants agreed to recommend to the Subcommittee that the following provision be included in any legislation submitted by the Subcommittee:

The chief administrative officer of any agency of the Commonwealth or political subdivision thereof employing persons engaged in the practice of engineering, architecture, or land surveying as regular, full-time, salaried employees shall have the authority and responsibility to determine the engineering, architecture, and land surveying positions which have responsible charge of engineering, architectural, or land surveying decisions.

The Subcommittee accepted this recommendation of the task force and included this provision in the legislation sponsored for the 1990 Session.

Another issue extremely important to the Secretary and other state and local government representatives was the "grandfathering" issue. In essence, the grandfathering proposed by the Secretary and the Department of Transportation was a continuation of the government exemption with the addition of certain provisos. The Department of Transportation emphasized the need to protect those engineering, architectural, and land surveyor employees working for a government agency before July 1, 1990. During the task force meeting there was considerable discussion regarding the particulars concerning the government employee who would continue to be exempt from the licensing requirement. Some in attendance wanted to tie the continued exemption to employees in responsible charge positions before July 1, 1990. This position was strongly opposed by the Department of Transportation, which did not want to limit the continued exemption to persons in responsible charge before July 1, 1990, because it would limit the advancement of those employees not in responsible charge positions by that date. In a spirit of compromise, the proponents of the elimination of the government employee licensure exemption agreed to the continued exemption for those regular, full-time, salaried employees of the Commonwealth or any political subdivision of the Commonwealth who are so employed on June 30, 1990.

Another major discussion pertaining to the "grandfathering" or continued exemption provision was the duration of the "grandfathering" period. Suggestions ranged from four years to the lifetime of the employee. The protection of the career state employees was also a major consideration. After considerable discussion and debate on the issue, the proponents agreed to the limited continued exemption until June 30, 2010. This twenty-year "grandfather" period would provide ample time for government employees to retire or leave their current positions. There was concern that the Subcommittee might reject such an extended period. However, at its December 20 meeting, the Subcommittee agreed to adopt the task force's suggestion. This was after attempts by some Subcommittee members to insert amendments to encourage the "grandfathered" government employees to obtain their licenses. Members also considered requiring the "grandfathered employees" to take the professional engineer's exam and shortening the length of the twenty-year extended exemption. There would not have been a requirement that the employee pass the exam. It was pointed out that the submission of an unanswered examination paper would comply with this requirement. The "examination taking" amendment was withdrawn after various members commented on the nature of the compromise involved in the drafting of the proposal and after the chief engineer of the Department of Transportation stated that Department employees would be strongly encouraged to take the examination. The Subcommittee was reminded that new persons employed at the Department and at other government agencies on and after July 1, 1990, **for responsible charge positions** would have to be licensed prior to being placed in a responsible charge position.

The "grandfather" provision adopted by the Subcommittee stated:

> **Any person engaged in the practice of engineering, architecture, or land surveying as those terms are defined in § 54.1-400 as a regular, full-time, salaried employee of the Commonwealth or any political subdivision of the Commonwealth on June 30, 1990, who remains employed by the same state agency or political subdivision shall be exempt until June 30, 2010, from the licensure requirements of § 54.1-406 provided the employee does not furnish advisory service for compensation to the public or as an independent contracting party in this Commonwealth or any political subdivision thereof in connection with engineering, architectural, or land surveying matters. The chief administrative officer of any agency of the Commonwealth or political subdivision thereof employing persons engaged in the practice of engineering, architecture, or land surveying as regular, full-time, salaried employees shall have the authority and responsibility to determine the engineering, architecture, and land surveying positions which have responsible charge of engineering, architectural, or land surveying decisions.**

Although concerns regarding the potential cost impact of the Subcommittee's legislation on local governments were expressed by some members of the Subcommittee, the majority of the Subcommittee believed that the protracted length of the licensure exemption extension would alleviate most of the cost impact. The discussion of this proposal by the task force also indicated that costs estimates originally submitted to the Subcommittee would probably be lowered significantly when the draft legislation was circulated.

Issue 5: Will this proposal (elimination of the exemption) have an adverse effect on state and local government recruitment?

Representatives of state and local government maintained that the elimination of the licensure exemption for government workers would hinder recruitment. They indicated that when given the choice between working in the public or private sector, most persons with engineering licenses would choose the private sector for the monetary benefits. The Virginia Department of Transportation *(VDOT)* reported to the Subcommittee that its ability to recruit and retain qualified personnel may be diminished by the removal of the licensure exemption. In 1988, the median nationwide salary for an engineer with ten years of experience, according to the American Association of Engineering Societies, was $44,550. The Department reported that the median salary for an assistant division administrator, a comparable position, was $39,556 in 1988. The Department asserted that the thirteen percent salary difference already made it difficult to attract individuals to employment with VDOT. Members of the Subcommittee noted that although the salaries in the private sector may be slightly higher, the government positions often include an attractive benefits *(insurance, retirement, etc.)* package. The Subcommittee also noted that entry level salaries are comparable to national norms and that the majority of new hires are at the entry level.

Government representatives also commented on the shrinking supply of graduate engineers at the present time when the demand for engineers is increasing. It was reported that the number of civil engineering graduates has been declining since 1981. There were 10,547 civil engineering graduates in 1981 and only 8,388 in 1987. The Subcommittee was advised to consider this trend and the possible effect of its impact on mandated licensure. Some suggested that a requirement for licensure of state agencies may serve as a recruitment asset when seeking college-trained engineers.

The VDOT noted that its need for civil engineers by state highway agencies is expected to grow by 1.8 % per year. Retirements are expected to reduce the number of available professionals by 3.1 % per year.

Dr. Paul C. Torgersen, dean of the College of Engineering at Virginia Polytechnic Institute and State University, informed the Subcommittee that the United States has the smallest proportion of total baccalaureate engineering graduates of any county in the industrialized world. He noted that there had not been much of a decline at Virginia Tech, which is the seventh largest engineering school in the country, but that there had been a modest decline in the number of B.S. engineering degrees awarded nationally. The Subcommittee determined that the number of graduates in a particular field was cyclic: while the number of engineering graduates today may be a little low, the number will probably increase as students realize the advantages and opportunities in a career in the engineering profession. Information submitted to the Subcommittee regarding the awarding of engineering degrees and starting salaries, including a resolution supported by the deans of the five engineering schools in Virginia urging repeal of the licensure exemption, has been included in **Appendix XI**.

The open licensing process for the engineers was discussed and references made to the fact that candidates can qualify by various means, including work experience, and that there is no requirement that a candidate graduate from a particular curriculum prior to sitting for the exam. *(Reference is made to the Board regulations for the qualifications for the licensing of professional engineers -- see discussion on pages 6 and 7 of this report and Appendix I.)*

The Subcommittee also considered the possible impact of licensure requirements the ability of government agencies to recruit minorities and women. VDOT reported that 8.74 % of professional positions are filled by minorities and that 17.25 % of professional positions are filled by women. The Department felt that the repeal of the licensure exemption for government employees may harm its Equal Employment Opportunity and Affirmative Action Programs. It believed that a licensure requirement, no matter how judiciously applied, could be considered an artificial barrier to employment if the license could not be positively determined to improve job performance. Figures indicated that 60% of the Department's engineering leadership are college-trained, while 40% have advanced through the ranks. The Department asserted that the removal of the licensure exemption could prevent a portion of the on-the-job trained leaders from becoming licensed. In response to questions about the educational level of persons hired by VDOT without engineering degrees, the Department stated that most of the employees had some college education or a community college degree. It was also noted that there was no difference in salary between licensed and nonlicensed engineers in the Department.

In a discussion regarding concerns on the effect of the licensure exemption removal on women and minorities, Karen Washabau, Acting Director of the Department of Personnel and Training, stated that the issue was not easy to quantify as there are not very many women or minorities in the field yet. She indicated that required licensure would clearly eliminate some candidates. She stressed that sound personnel management policy and sound economic policy require the consideration of as wide an applicant pool as possible. Recruitment of women and minorities is difficult now because there are not currently large numbers of women and minorities in the field, and Ms. Washabau predicted that a licensure requirement could make the recruitment even more difficult given the limited number of recruits available. She noted that although the entrance of women and minorities to the applicant pool and promotional opportunities would probably be diminished as a result of a licensure requirement, the most immediate negative impact of such a requirement would be on white males. Almost all of the current non-degreed engineers are white males.

Minority licensed professionals speaking on the issue stated that performance should remain constant regardless of a person's ethnic background and that the attraction of minorities to engineering positions should not be an issue. It was pointed out that women and minorities obtain engineering licenses and that if a search were conducted, an adequate number of qualified minorities would be identified.

The Department requested the Subcommittee to consider several factors should licensure of engineers employed by the state and its localities be mandated. The factors included a grandfather clause; the phase-in of the law over a period of several years; a specific definition for "responsible charge" with a mechanism to assist agencies in determining "responsible charge" positions; and a requirement by Virginia schools granting engineering degrees that students pass the EIT examination prior to receiving engineering degrees. During the course of the study, the Subcommittee considered these factors and incorporated into its proposed legislation a modified grandfather clause-phase-in period and a specific definition of responsible charge. It was anticipated that the Board for Architects, Professional Engineers, Land Surveyors and Landscape Architects and its staff would be a resource for any government agencies to contact regarding questions on the application of the "responsible charge" standard.

Dean Torgersen did not support the mandatory passage of the EIT exam prior to graduation since many engineering students continue their education in law school or medical school, or start careers as corporate managers. The Dean stated that all of the students at Virginia Tech are encouraged to take the EIT *(Fundamentals of Engineering/Engineer in Training)* examination. He informed the Subcommittee that the national pass rate is 66 % and that Tech's pass rate is 93%.

Issue 6: Should certain state and local agencies be granted specific exemptions from the licensing requirements for their employees?

Proponents of the elimination of the government employees licensure exemption reported that Vermont and South Dakota were the only states, other than Virginia, which exempted all state engineers and that Vermont, South Dakota, Colorado, and Virginia were the only states exempting all local government employees.

The Department of Transportation provided an alternative interpretation of the licensing laws of other states. It noted that the size and area of responsibility of each state's transportation department should also be considered when examining a state's licensing law provisions. The Department reported that twelve states require all engineers to be licensed and fifteen require all engineers in responsible charge to be licensed. The remaining states have other provisions, which include requiring only the chief engineer to be licensed, exempting federally employed engineers and employees of public utilities, exempting local government engineers, requiring that engineering work be performed under the supervision of a licensed engineer, and exempting employees of a licensed engineer if they do not make unchecked, final engineering decisions. The Department also explained that several states require all engineers to be licensed, but implement the law by requiring a license only for specific positions.

The staff of the Subcommittee researched the licensing laws of the other forty-nine states. Some states included exemptions based on the monetary value of the project, the type of work performed, or the agency or department performing the work. The results of the research have been placed in **Appendix XII**.

The Subcommittee decided that the granting of a specific exemption for a particular state or local government agency would perpetuate the current problem--a double standard for the engineering profession based on employment in the public or private sector. It was also argued that the removal of the licensing exemption for state employees would improve the professional image of government engineers.

Issue 7: Should limited or special licenses be issued for public sector employees?

The Subcommittee received little testimony regarding whether the Board could devise a type of limited or special license just for public sector employees. The limited or special license would have required examination specific to the content of the job performed by the public sector employee. The Subcommittee decided that the Board for Architects, Professional Engineers, Land Surveyors and Landscape Architects had the authority to consider whether limited or special licenses would be feasible and did not take any further action on this matter.

Other Issues:

State and local government officials expressed concern regarding the interpretation of "responsible charge," including the possible limitation of administrative appeals, the possible stalling or limitation of enforcement activities, the possible expansion of the scope of appeals, and the possible delay of processing permit applications. The Virginia Building and Code Officials Association was interested in whether the application of the "responsible charge" standard would restrict the ability of building officials to enforce the requirements of the Uniform Statewide Building Code. The Subcommittee and study participants determined that § 54.1-410 pertained directly to these concerns. Subsection A of that section provides that neither the chapter regulating architects, engineers, land surveyors, and landscape architects nor the Board regulations limit the authority of public officials authorized by law to approve plans, specifications, or calculations in connection with improvements to real property. The statute also references the authority of officials of local building departments to require, pursuant to the Uniform Statewide Building Code, state statutes, local ordinances, or code requirements that the work be prepared by a licensed or certified person. Subsection B of that section also provides that public bodies authorized by law to require that plans, specifications, or calculations be prepared in connection with improvements to real property shall establish a procedure to ensure that the plans, specifications or calculations be prepared by licensed or certified professional unless exempted from the chapter by § 54.1-401 or § 54.1-402.

The Subcommittee agreed that government employees conducting routine, administrative work that did not involve the exercise of independent professional judgment should not be required to be licensed or certified by the Board for Architects, Professional Engineers, Land Surveyors and Landscape Architects. However, any work which required the exercise of independent professional judgment of an architect, professional engineer, or land surveyor would require that the person conducting the work be licensed. Of course, exemptions may be applicable in this situation--such as subdivision 4 of § 54.1-401, which exempts from the licensure requirements persons engaged in the practice of professional engineering as an employee under a licensed professional engineer, engaged in the practice of architecture as an employee under a licensed architect, or engaged in the practice of land surveying as an employee under a licensed land surveyor, provided that such practice does not include the responsible charge of design or supervision.

The meaning of the term "responsible administration of construction contracts" in the current definition for "practice of engineering" was questioned and, in an attempt to clarify that term, the task force recommended the insertion of the words "in which engineering plans or designs are changed." The Subcommittee, at the urging of many of the study participants, agreed to delete the suggested amendment attempting to clarify "responsible administration of construction contracts" because current law already exempts nontechnical administration of contracts in the definition of "practice of engineering." The Subcommittee suggested that this issue could be addressed, if necessary, by the Board through the amendment of regulations to clarify this matter.

The task force also recommended amending subsection B of § 54.1-410. Of particular concern to some government representatives was the following sentence: "A review of plans or inspection of facilities for compliance with an adopted code or standard by any public body which does not require independent professional judgment shall not require the services of a licensed architect, professional engineer, licensed surveyor or certified landscape architect." It was argued that local government employees may be prevented from advising licensed engineers regarding the operation of certain systems since these employees exercise judgment in some of their work. A majority of the Subcommittee members did not believe that the language was a problem or that it would effect the work of state and local government employees in reviewing plans or inspecting facilities for compliance with codes and standards.

RECOMMENDATIONS

The majority of the Subcommittee determined that legislation was necessary to address the problems and concerns raised during the course of the study. Throughout the study, the comments and input from state and local government employees and representatives, licensed professionals, citizens of Virginia, and trade and professional associations were considered by the Subcommittee members. The task force meeting, held on December 7, 1989, was attended by twenty persons representing the Department of Personnel and Training (2); the Department of Transportation (3); the Secretary of Transportation and Public Safety; the Division of Engineering and Buildings of the Department of General Services (2); the Virginia Municipal League (2); the Virginia Association of Counties and Fairfax County; Henrico County; Chesterfield County; the Office of Water Programs of the Department of Health; and the Office of the Secretary of Administration. The task force's work session resulted in draft legislation for consideration by the Subcommittee at its final meeting.

The draft legislation presented to the Subcommittee represented a compromise by both the licensed professionals advocating repeal of the licensure exemption for government employees and government employees resisting any change to their exemption classification. The only major change made by the Subcommittee to the draft legislation presented by the task force was the removal of the amendments to the term "responsible administration of construction contracts." As discussed elsewhere in this report, several members of the Subcommittee believed that the proposed legislation did not go far enough in providing an impetus for government employees to become licensed. However, the need to retain some flexibility in the proposal and the mutual concessions made by the opposing parties in the matter prompted the majority of the Subcommittee to recommend the introduction of the proposed legislation.

Recommendation #1: Establish a definition for "responsible charge" that is broad in scope, generic, and in common use throughout the United States.

The Subcommittee has included in its legislative package the definition for "responsible charge" derived from the definition for that term in the National Council of Examiners for Engineering and Surveying Model Law.

Recommendation #2: Eliminate the blanket exemption from licensure for state and local government employees. Provide limited protection for those employees currently working for government agencies.

The Subcommittee has included in its legislative package the repeal of the current exemption from licensure for state and local government employees. However, provisions were added to the legislation which continue the current exemption from licensure until June 30, 2010, for those persons engaged in the practice of engineering, architecture, or land surveying as regular, full-time, salaried employees of the Commonwealth or any political subdivision of the Commonwealth on June 30, 1990, who remain employed by the same state agency or political subdivision. This exemption would continue until June 30, 2010, provided the employee does not furnish advisory service for compensation to the public or as an independent contracting party in this Commonwealth or any political subdivision in connection with engineering, architectural, or land surveying matters. The Subcommittee recognized that this limited continued exemption benefited the state government in some ways more than local governments, since localities have a smaller pool of employees and a higher turnover rate.

Recommendation #3: Provide a mechanism for the designation of positions in "responsible charge."

The Subcommittee included in its legislative package a directive and the authorization for the chief administrative officers of any agency of the Commonwealth or political subdivision employing persons engaged in the practice of engineering, architecture, or land surveying as regular, full-time, salaried employees to determine which engineering, architecture, and land surveying positions have responsible charge of engineering, architecture, or land surveying decisions. The Subcommittee agreed that the entire decision as to which positions would be designated as responsible charge positions would be left entirely to the chief administrative officer of the affected government agency. Those designated as being in responsible positions would be participating in engineering, architecture, or land surveying matters which would require licensure of nongovernment employees. The designation of the responsible charge individuals shall ensure that all plans produced by the government agency are signed by a responsible charge individual.

The current exemption from licensure contained in subdivision 4 of § 54.1-401 is not being amended by any proposal of the Subcommittee and would be applicable to state and local government employees as well as employees in the private sector. That provision exempts from the chapter regulating architects, professional engineers, land surveyors, and landscape architects, any person engaged in the practice of professional engineering as an employee under a licensed professional engineer, engaged in the practice of architecture as an employee under a licensed architect, or engaged in the practice of land surveying as an employee under a licensed land surveyor, provided that such practice shall not include the responsible charge of design or supervision.

A copy of the Subcommittee's legislative proposal has been attached as **Appendix XIII**.

CONCLUSION

In considering all of the information submitted to it, the Subcommittee was extremely conscious of the need that its decision not impact fiscally upon local or state governments and the career plans of local and state government employees currently in responsible charge positions. It has incorporated these concerns in its recommendations and its proposed legislation.

The Subcommittee wishes to express its appreciation for the participation and cooperation of the Board for Architects, Professional Engineers, Land Surveyors and Landscape Architects, the Department of Personnel and Training, the Virginia Department of Transportation, the Virginia Municipal League, the Virginia Association of Counties, the Virginia Society of Professional Engineers, and other state and local government officials and employees and trade and professional associations which participated in the work sessions of the study.

The General Assembly's support of the Subcommittee's legislative package will improve the effectiveness of the practice of engineering, architecture, and land surveying throughout the Commonwealth.

Respectfully submitted,

Alan E. Mayer, *Chairman*

Frank W. Nolen, *Vice Chairman*

James F. Almand

Robert L. Calhoun

V. Earl Dickinson**

Robert E. Russell

Alson H. Smith, Jr.

Robert C. Gibson

William F. LaVecchia

Carolyn J. Moss, *Ex Officio*

Eva S. Teig, *Ex Officio*

Vivian E. Watts, *Ex Officio*

***Delegate Dickinson dissents from this report. His dissent statement appears on the next page.*

COMMONWEALTH OF VIRGINIA
HOUSE OF DELEGATES
RICHMOND

V. EARL DICKINSON
RT. 4. BOX 560
MINERAL. VIRGINIA 23117

FIFTY-SIXTH DISTRICT

COMMITTEE ASSIGNMENTS:
PRIVLEGES AND ELECTIONS
ROADS AND INTERNAL NAVIGATION
APPROPRIATIONS

Please be advised that I cannot in good conscience sign off on the report to be submitted to the Governor and the General Assembly. At no time during the study did we find that licensed professional engineers were better qualified than graduate engineers. I believe the mandated licensure requirement will adversely affect both local and state government's ability to recruit and retain qualified personnel. We have a shrinking supply of graduate engineers at a time when the demand for them is increasing. This is certain to increase the costs of government.

The "grandfather clause" may somewhat defer the adverse effects of the bill; however, we will someday face up to its provisions.

I think the reasons that state and local government exempted engineers from state licensing requirements back in 1925 are even more justified today.

Respectfully submitted,

V. Earl Dickinson

APPENDICES

PART II.
QUALIFICATIONS FOR LICENSING OF ARCHITECTS.

§2.1. Fees.

A. Deadline for applications and examination fees.

Complete applications with fee in the amount prescribed shall be filed with all references, experience validations, and official transcripts, not less than 90 days prior to the date of the examination.

B. Application, examination and review fees.

All fees shall be established by the board pursuant to §54-1.28:1 of the Code of Virginia. Fees are nonrefundable and shall not be prorated.

§2.2. Written examination required.

All applicants for original licensing in Virginia are required to pass an Architect Registration Examination after submitting sufficient evidence of education or equivalent education credits and experience.

§2.3. Character and age.

Applicants must be of good character and be at least 18 years of age.

§2.4. Character of experience.

The applicant shall have 36 months of combined experience or exposure in the essential areas of architectural practice as defined below. Evidence shall be in the form of official records of a structured internship development program approved by the board, or incorporated in the candidate's application and verified by employers. Experience shall include:

A. A minimum of approximately 18 months in the area of design and construction documents directly related to the practice of architecture; and

B. A minimum of approximately five months in the area of construction administration directly related to the practice of architecture; and

C. A minimum of approximately three months in the area of office management directly related to the practice of architecture.

§2.5. References for Architect Registration Examination.

Eligibility for the examination is determined by an indication of the applicant's demonstrated competence and integrity to engage in the practice of architecture by submitting three references with the application, all of whom are licensed architects in a jurisdiction or territory of the United States. These professionals must have personal knowledge of the applicant's architectural experience and have known the applicant for at least one year. References shall be current.

§2.6. Examinations.

A. The Virginia board is a member of the National Council of Architectural Registration Boards (NCARB) and as such is authorized to adopt the NCARB examinations and grading procedures.

B. The Architect Registration Examination (ARE) will be offered once a year in the month of June.

C. Applicants approved to sit for an examination must register for the examination and submit the required examination fee not less than 45 days prior to the scheduled examination. Applicants not properly registered for a scheduled examination shall not be allowed into the examination site.

D. Candidates must successfully pass each division of the Architect Registration Examination.

E. Candidates taking the examination for the first time are required to take all divisions.

F. All failed or noncredited divisions must be retaken each time the candidate sits for the examination.

G. A transfer of credits to the ARE from the previous NCARB examinations will be as follows:

PREVIOUS NCARD EXAM SUCCESSFULLY		OLD NCARB EXAMS	CONVERSION CREDITS TO ARE	ARE REQUIREMENTS	
				A	
				B	
		Qualifying Test/Sec.B	Divisions D/F & E	C	
		Qualifying Test/Sec.C	Division H	D/F	
		Qualifying Test/Sec.D	Division G	E	
		Professional Exam - Sec. A (Design/Site)	Division B & C	G	
				H	
		Professional Exam - Sec. B, Parts I & II	Division A	I	
		Professional Exam - Sec. B, Part III	Divisions D/F, E, G & H		
		Professional Exam - Sec. B, Part IV	Division I		

Division A. Pre-design
Division B. Site Design
Division C. Building Design
Building Systems
Division D/F. Structural Technology:
General and Long Span
Division E. Structural Technology:
Lateral Forces
Division G. Mechanical, Plumbing,
Electrical & Life
Safety Systems
Division H. Materials & Methods
Division I. Construction Documents &
Services

H. Candidates who are taking portions of the examination in accordance with the transition schedule must take all divisions required by the schedule at one sitting.

I. Examinees will be given specific instructions as to the conduct of each division of the exam at the exam site. Examinees are required to follow these instructions to assure fair and equal treatment to all examinees during the course of the examination.

J. Examinees will be advised only of passing or failing the examination. Only the board and its staff shall have access to examination papers, scores, and answer sheets.

K. Examination reviews.

1. Upon written request to the board, examinees will be permitted to individually view only their own failed examinations in the graphic divisions.

2. The board, upon such written request, will schedule a group meeting with failing examinees for the purposes of reviewing the graphic divisions of the examination.

Upon agreement of the board that a failed examination of Division B or Division C merits a change in grade from fail to pass, that grade will be credited in the examinee's record toward licensure in this Commonwealth.

§2.7. License by reciprocity.

A. Any person licensed in another state, jurisdiction or territory of the United States may be granted a license without written examination, provided that:

1. The applicant meets all the requirements for licensing in Virginia; and

2. The applicant holds a currently valid license in good standing in the jurisdiction of original licensure.

B. The board may accept a currently valid license in good standing from the applicant's current base state if transferred from the jurisdiction of original licensure.

TABLE I.

REQUIREMENTS FOR ARCHITECTURAL LICENSURE

PART I EDUCATION AND TRAINING REQUIREMENTS	EDUCATION AND TRAINING REQUIREMENTS RELEASED: JULY, 1984; THIS EDITION SUPERSEDES ALL PREVIOUS TABLES OF EQUIVALENTS. INTERN-ARCHITECT DEVELOPMENT PROGRAM (IDP) APPLICANTS REFER TO PART II FOR THEIR TRAINING REQUIREMENTS. (Information may be obtained from NCARB.) A person seeking licensure is required to have five years of professional education or equivalent education credits and three years of practical training. Education and training may be gained in a variety of ways. This document identifies and explains those education and training equivalents and alternatives.

EXPERIENCE DESCRIPTION	Education Credits			Training Credits	
	First 2 Years	Succeeding Years	Max. Credit Allowed	Credit Allowed	Max. Credit Allowed
A-1 First professional degree in architecture, or credits toward the first professional degree, where the degree program has been approved by the Board not later than two years after termination of enrollment.	75%	100%	5 years		
A-2 First professional degree in architecture, or credits toward that degree, where the degree program has not been approved by the Board.	75%	75%	4 years	See B-2.1.2	
A-3 Bachelor degree, or credits toward that degree, in architectural engineering, architectural technology, or in civil, mechanical, or electrical engineering, or in interior architecture, each of the above being approved by the Board.	50%	75%	3 years		
A-4 Any other bachelor degree.			2 years		
A-5 Diversified experience in architecture as an employee in the offices of licensed architects.	50%	50%	5 years	100%	no limit
A-6 Diversified experience in architecture as a principal practicing in the office of a licensed architect with a verified record of substantial practice.	50%	50%	5 years	100%	no limit
A-7 Diversified experience in architecture as an employee of an organization (other than offices of registered architects) when the experience is under the direct supervision of a registered architect.	50%	50%	4 years	100%	2 years
A-8 Experience directly related to					

architecture, when under the direct supervision of a licensed architect but not qualifying as diversified experience or when under the direct supervision of a professional engineer, landscape architect, interior designer, or planner.	0	50%	1 year
A-9 Experience, other than A-5, A-6, A-7 or A-8 experience, directly related to on-site building construction operations or experience involving physical analyses of existing buildings	0	50%	6 months
A-10 A Master or Doctoral degree in architecture (except where the degree is the first professional degree)	0	100%	1 year
A-11 Teaching or research in an architectural program approved by the Board	0	100%	1 year
A-12 Other Education or Training Experience (see B-4.2)			

EXPLANATION OF REQUIREMENTS

B-1 Entry to Exam — To be approved to sit for the exam, an applicant must;

- B-1.1.1 Be at least 18 years of age;
- .2 Hold a high school diploma or equivalent;
- .3 Be of good character as verified by employers and architects;
- .4 Hold an architecture degree, approved by the Board, or have at least 5 years of education credits;
- .5 Have at least 3 years of training credits;

B-2 Education Credits — Education Credits shall be subject to the following conditions:

- B-2.1.1 No education credits may be earned prior to graduation from high school.
- .2 Applicants with the degree specified in A-1 through A-4 will be allowed the credit shown in the Maximum Credit Allowed column, regardless of the length of the degree program. Applicants without the degree specified in A-1 or A-2 may not accumulate more than 3 years of education credits in the aggregate from all degree programs.
- .3 32 semester credit hours or 48 quarter credit hours are considered to be 1 year. Fractions of a year of one-half or greater will be considered one-half year, and smaller fractions will not be counted.
- .4 Foreign education credits will be granted only under classifications A-2 and A-4. Any cost of translation and evaluation will be borne by the applicant.

B-3 Training Credits — Training credits shall be subject to the following conditions:

- B-3.1.1 No training credits may be earned prior to accumulating 2 1/2 education credits.
- .2 Every applicant must earn at least one year of training credit under A-5 or A-6 and must earn it after earning 5 years of education credits.
- .3 To earn credit under A-10 or A-11, an applicant's credit hours must be in subjects evaluated by the Board as directly related to architecture. 20 semester credit hours or 30 quarter credit hours of teaching or equivalent time in research will equal 1 year.
- .4 No credit used as an education credit may be used as a training credit.

.5 Organizations will be considered to be "offices of registered architects": (a) the architectural practice of the organization in which the applicant works is in the charge of a person practicing as a principal and the applicant works under the direct supervision of a registered architect, and (b) the organization is not engaged in construction, and (c) the organization has no affiliate engaged in construction which has a substantial economic impact upon the person or persons in the organization practicing as a principal.

.6 An organization (or an affiliate) is engaging in construction if it customarily engages in either of the following activities:

(a) undertakes to provide labor and/or material for all or any significant portion of a construction project, whether on lump sum, cost plus or other basis of compensation, or

(b) agrees to guarantee to an owner the maximum construction cost for all or any significant portion of a construction project.

.7 A person practices as a "principal" by being (a) a registered architect and (b) the person in charge of the organization's architectural practice, either alone or with other registered architects.

.8 In evaluating training credits the Board may, prior to licensure, require the applicant to substantiate training experience by comparing this experience to the training requirements as indicated for the Intern-Architect Development Program (IDP). See IDP Training Requirements below.

B-4 General Evaluation Criteria

B-4.1 To earn full education or training credits under A-5, A-6, A-7, A-8 and A-9 an applicant must work at least 35 hours per week for a minimum period of ten consecutive weeks under A-5 or 6 consecutive months under A-6, A-7, A-8 or A-9. An applicant may earn one-half the credit specified under A-5 for work of at least 20 hours per week in periods of 6 or more consecutive months; no credit will be given for part-time work in any category other than A-5.

.2 Other education and training may be substituted for the requirements outlined above, only insofar as the board considers them to be equivalent to the required qualifications.

.3 In evaluating credits, the Board may, prior to registration, require substantiation of the quality and character of the applicant's experience, notwithstanding the fact that the applicant has complied with the technical education and training requirements set forth above.

PART II — SPECIAL TRAINING REQUIREMENTS FOR INTERN-ARCHITECT DEVELOPMENT PROGRAM (IDP) APPLICANTS

IDP Applicant Defined — An IDP Applicant for registration is a person whose training is evaluated by the following criteria in accordance with procedures accepted by the Board.

Training Requirements — An IDP Applicant must acquire a total of 700 Value Units (VU's) to satisfy the training requirements. One VU equals 8 hours of acceptable activity.

The following chart lists the IDP Training Categories and Areas and the Value Unit requirements for each.

CATEGORY A		CATEGORY B	
Design and Construction Documents	Minimum VU's Required	Construction Administration	
1. Programming--Client Contact	10	10. Bidding Procedures	10
2. Site and Environmental Analysis	10	11. Construction Phase--Office	15
3. Schematic Design	15	12. Construction Phase--Observation	15

4. Building Cost Analysis.....10
5. Code Research.....15
6. Design Development.....40
7. Construction Documents.....155
8. Specifications & Materials Research.....15
9. Documents Checking and Coordination.....15

Minimum Total VU's Required 360*

CATEGORY C

Office Management

13. Office Procedures.....15
14. Professional Activities.....10

Minimum Total VU's Required 35*

*The differences between the minimum total VU's required in each of Categories A, B and C and the sum of the minimums required for each Training Area within the Category must be acquired by earning VU's from Training Areas within the same Category.

Minimum Total VU's Required 70*

CATEGORY D

Related Special Activities

No Minimum Required

The above listing of required minimums in Categories A, B and C totals 465 VU's, allowing for 235 additional VU's to be acquired in any of the listed Categories. All of the 235 additional VU's may be acquired in one Category or distributed among the Categories.

Explanation of Requirements

1. VU's in Categories A, B and C may be acquired only if the applicant meets the time requirements of B-5.1 of Part I. VU's may be acquired in Category D only if the activity is substantial and continuous.

2. No VU's may be acquired prior to earning 2 1/2 years of education credits (see Part I).

3. A Master or Doctoral degree in architecture (except where the degree is the first professional degree) qualifies for 235 VU's under Category D.

4. An IDP applicant may earn VU's by completing Board-approved supplementary education programs; credit to be in accordance with a table of credits established by the Board. No VU's may be earned for supplementary education while enrolled in a first or second professional degree program in architecture.

5. To satisfy Categories A and B of the Training Requirements, VU's must be acquired in settings described in A-5 or A-7 of Part I.

6. A minimum of 235 VU's must be acquired in the setting described in A-5 of Part I after having earned five years of education credits.

7. In evaluating training, the Board may, prior to registration, require substantiation of the quality and character of the training notwithstanding the fact that the IDP applicant has complied with the technical training requirements set forth above.

8. For detailed descriptions of the IDP Training Categories and Supplementary education requirements, see IDP Training Guidelines available through NCARB. Refer to Part I for education requirements and registration requirements.

PART III.
QUALIFICATIONS FOR LICENSING OF PROFESSIONAL ENGINEERS.

§3.1. Definitions.

The following definitions shall apply in the regulations relating to the licensing of professional engineers.

"Approved engineering curriculum" means an engineering curriculum of four years or more approved by the board as being of satisfactory standing. ABET approved engineering curricula are acceptable to the board.

"Approved experience" means a specific record of acceptable professional experience which the board, in its discretion, judges to be pertinent in acquiring engineering skills, on engineering projects of a grade and character indicating that the applicant may be competent to practice engineering. Experience required "in responsible charge of important engineering projects" shall also be subject to the board's approval.

"Engineering examination" means the professional examination in engineering consisting of an eight-hour written examination in the fundamentals of engineering and an eight-hour written examination in the principles and practice of engineering or the oral examination, or both, where required.

"Engineering intern designation" means the designation of applicants who complete any one of several combinations of education, or education and experience, and pass the fundamentals of engineering examination.

§3.2. Fees.

All fees shall be established by the board pursuant to §54-1.28:1 of the Code of Virginia. Fees are nonrefundable and shall not be prorated.

§3.3. Character and age.

Applicants must be of good character and at least 18 years of age.

§3.4. References for professional engineering examination.

To be eligible for admission to the principles and practice of engineering examination, an applicant must indicate competence and integrity to engage in the engineering profession by submitting three references with the application, all of whom shall be licensed professional engineers in some state or territory of the United States. The professional engineers providing the references must

have personal knowledge of the applicant's engineering experience and must have known the applicant for at least one year. References shall be no more than one year old at the time the applicant is approved to take the requisite examination.

§3.5. References for fundamentals examination.

Applications for the fundamentals-of-engineering examination only must provide one reference from a professional engineer, or from the dean of the engineering school or a departmental professor in the school attended by the applicant, or an immediate work supervisor. Any reference provided shall be from a person who has known the applicant for at least one year.

§3.6. Engineering intern status.

The education or experience, or both, and examination requirements for engineering intern status are as follows:

A. An applicant who has graduated from an approved engineering or approved engineering technology curriculum of four years or more shall pass an eight-hour written examination in the fundamentals-of-engineering; or

B. An applicant who is a graduate of an engineering or related science curriculum of four years or more, other than ones approved by the board, and with a specific record of two or more years of approved professional experience on engineering projects of a grade and character satisfactory to the board shall pass the fundamentals-of-engineering examination; or

C. An applicant who is a graduate of a nonapproved engineering technology program or who is not a graduate of an engineering or related science curriculum of four years or more but who, in the judgment of the board, has obtained the equivalent of such graduation as described, by self study or otherwise, and who has acquired six additional years of board-approved professional experience on engineering projects, shall pass the fundamentals-of-engineering examination. Experience used to determine educational equivalency shall not be used in satisfying professional experience.

§3.7. Requirements for professional engineering license.

Education, experience, and examination requirements for licensing as a professional engineer, except for licensing by endorsement as set forth in §3.8 of these regulations, are as follows:

A. An applicant who has graduated from an approved engineering curriculum, who has passed the fundamentals-of-engineering examination or an equivalent exam, and who has a specific record of at least four years of progressive professional experience,

shall pass the principles and practice of engineering examination; or

B. An applicant who has graduated from an engineering or a related science curriculum of four years or more, other than those approved by the board, or an approved engineering technology curriculum, who has passed the fundamentals-of-engineering examination or an equivalent exam, and who has acquired a specific record of at least six years of progressive professional experience, shall pass the principles and practice of engineering examination; or

C. An applicant who is not a graduate of an approved engineering curriculum of four years or more but who has obtained the equivalent of such graduation by self-study or otherwise, who has passed the fundamentals-of-engineering examination and who has acquired 10 years of approved professional experience, shall pass the principles and practice of engineering examination. (Experience used to determine educational equivalency is not to be used in satisfying professional experience); or

D. An applicant who has graduated from an engineering or related science curriculum of four years of more, and who has acquired a specific record of 20 years or more of board-approved professional experience on engineering projects, of which at least 10 years have been in responsible charge of important engineering projects and of a grade and character which the board judges to be pertinent to acquiring professional skills, such that the applicant may be competent to practice engineering, shall pass the examination in the principles and practice of engineering; or

E. An applicant who has graduated from an engineering or related science curriculum of four years or more, and who has acquired a specific record of 30 years or more of board-approved pro--fessional experience on engineering projects, of which at least 20 years have been in positions of responsible charge of important engineering projects and of a grade and character which the board judges to be pertinent to acquiring professional skills, demonstrating that the applicant is eminently qualified to practice engineering, shall pass a special oral examination which indicates to the board that the applicant is eminently qualified to practice engineering. If the board has any doubt concerning an applicant's eminent qualifications, the applicant shall be reclassified as an advanced professional engineer candidate.

§3.8. Licensing by endorsement (reciprocity).

A person holding a license to engage in the practice of engineering, issued to the applicant by another state, territory, or possession of the United States, or the District of Columbia, based on require-

ments that do not conflict with and are at least as vigorous as these regulations and supporting statutes of this board, may be licensed without further examination. No person shall be so licensed, however, who has not passed a written examination in another jurisdiction which is comparable to that administered by the board.

§3.9. Training and experience.

Professional engineering training and experience shall be progressive in complexity and based on a knowledge of engineering mathematics, physical and applied sciences, properties of materials, and fundamental principles of engineering design, provided:

1. In general, experience in sales, estimating, field surveying, nonengineering military service, and inspection are considered nonqualifying; and

2. Engineering experience gained by post-graduate engineering study or by engineering teaching as an instructor or higher in an institution approved by the board may be deemed professional experience; and

3. Engineering experience gained during a board-approved co-op program may be deemed professional experience to a maximum of one year of credit; and

4. The board, in its sole discretion, may permit partial credit, not to exceed 3/4 of that required, for engineering experience obtained prior to graduation from an engineering school when such experience is judged to be pertinent in acquiring engineering skills and involves engineering projects under the direct supervision of a licensed professional engineer, who shall clearly differentiate between subprofessional and professional level experience.

§3.10. Conduct of the examination.

Written examinations shall be conducted under the following general rules:

A. No candidate shall communicate with any other candidate in any way without the direct permission of the proctor.

B. All papers handed in by a candidate shall bear an assigned code number and shall not bear any other identification which can identify the candidate.

C. Textbooks, bound notes, and standard printed references may be used as aides during any part of any examination.

D. Silent, self-powered, electronic calculators may be used.

E. A candidate eligible for admission to both parts of the examination must first successfully complete the fundamentals of engineering examination before being admitted to the principles and practice of engineering examination.

F. Grading. Each part of the written examination will have a value of 100 points. A passing score shall be 70 points. Candidates will be notified of passing or failing and their scores. All requests for score appeals must be received within one year of the date the examination was administered, after which time examinations will no longer be retained.

G. Reexamination. Upon paying a reexamination fee, an applicant may retake either part of the written examination which may have been failed.

H. The oral examination shall consist of a review of the engineering background and examples of the work of the professional engineering candidate in the presence of one or more members of the board and their consultants. This examination may encompass any facts appearing in the application and supporting papers of the candidate and such direct evidence as the candidate may desire to present to the board to substantiate the breadth and depth of professional engineering experience, primarily in experience in engineering design and analysis.

1. Substantiating evidence shall be in the form of drawings, sketches, reports, specifications, calculations, published articles, textbooks, or other suitable information demonstrating the engineering experience of the candidate. Based upon this information, the candidate will be subject to questions regarding principles of engineering followed in the execution of such work.

2. The candidate shall demonstrate that the experience record is of a professional level and shall leave no doubt as to the ability to protect the public in the practice of engineering. Failure to demonstrate this ability shall result in reclassification.

§3.11. Engineering intern designation.

The engineering intern designation shall remain valid indefinitely.

PART IV.
QUALIFICATIONS FOR LICENSING OF LAND SURVEYORS.

§4.1. Fees.

A. All fees shall be established by the board pursuant to §54-1.28:1 of the Code of Virginia. Fees are nonrefundable and shall not be prorated.

B. Applicants approved to sit for an examination shall register for the examination and submit the appropriate examination fee not less than 45 days prior to the scheduled examination. Failure to appear for or complete any examination shall result in the forfeiture of said fees. Applicants not properly registered for a scheduled examination shall not be allowed into the examination site.

§4.2. Transcript of educational records.

The application shall be accompanied by an official transcript of the applicant's college, university or technical institute record, or board approved equivalent, with evidence of successful completion of the required courses in algebra, geometry, trigonometry and surveying.

§4.3. Character and age.

Applicants must be of good character and at least 18 years of age.

§4.4. Applicants licensed in other states.

No land surveyor license shall be granted in this Commonwealth on the basis of reciprocity to any applicant licensed as a land surveyor in another jurisdiction of the United States; however, full credit will be given to the applicant who has passed the NCEE examination for surveyors given in other jurisdictions. In any event, it will be necessary for an applicant to pass a four-hour examination on Virginia principles, practices, and law in order to obtain a license to practice surveying in this Commonwealth.

§4.5. References.

The applicant shall send to each person listed as a reference on the application form a questionnaire, to be completed according to its accompanying instructions. The references furnished shall be from current business associates or from employees of the same or closely related firm.

§4.6. Practical 3(a) experience.

"Satisfactory or approved practical experience" means diversified practical training in land surveying under the supervision and direction of a licensed land surveyor. This experience shall have been acquired in positions requiring the exercise of independent judgment, initiative, and professional skill.

§4.7. Education.

Credit for education shall be allowed as follows:

A. Five years of the six-year 3(a) experience requirement shall be credited to any applicant holding a bachelor of science degree in a board-approved program emphasizing professional land surveying, with courses including a minimum of 20 semester hours (30 quarter hours) in advanced surveying courses; and a minimum of 10 semester hours (15 quarter hours) in supporting courses directly related to land surveying (for example: real property law; land planning; drainage); or

B. In lieu of the foregoing, a program of courses having the prior endorsement and approval of the Land Surveyor Section will be credited with five years of the six-year requirement.

C. Any applicant holding a bachelor of science degree in a board-approved program emphasizing professional land surveying, including less than the 20 semester hours in advanced surveying courses and 10 semester hours in suitable supporting courses, shall be credited with up to a maximum of four years of the six-year experience requirement.

D. An applicant satisfactorily completing at least two academic years of a curriculum satisfactory to the Land Surveyor Section in a college or technical institute shall be credited with 3/4 year for each year completed, limited to a maximum allowance of three years. The curriculum shall have included surveying, geometry, trigonometry, and algebra, in addition to geodesy, mapping, and related courses.

E. Applicants for 3(b) land surveyor licensure shall present satisfactory evidence of having passed a course in hydraulics, acceptable to the board, in addition to meeting the other minimum education requirements. Training in any apprenticeship program shall not be an acceptable equivalent to any approved college-level curriculum, but may satisfy one or more of the minimum requirements in mathematics.

§4.8. Combined education and experience requirements.

To be eligible for admission to the land surveyor examination, an applicant shall meet the following requirements:

A. For Part I of the 3(a) examination: Have six years of practical

experience, or a combination of six years of formal education and practical experience acceptable to the Land Surveyor Section, as described in §4.2 of these regulations.

B. For Part II of 3(a) examination and for license pursuant to §54-17.1 (3) (a): Pass Part I of 3(a) examination and have eight years of practical experience, or have a combination of eight years of formal education and practical experience of a nature and character satisfactory to the Land Surveyor Section.

C. For the 3(b) examination: Hold a valid license as a 3(a) land surveyor and present satisfactory evidence of two years of practical experience in 3(b) professional land surveying, as defined in §54-17.1 (3) (b) of the Code of Virginia, under the supervision and direction of a 3(b) land surveyor or professional engineer.

§4.9. Interval and duration of examination.

A. The examination for land surveying under §54-17.1 (3) (a) of the Code of Virginia shall consist of two parts, each part being of eight hours duration. These examinations shall be given at approximately six-month intervals.

B. The examination for land surveying under §54-17.1 (3) (b) of the Code of Virginia shall be of eight hours duration and shall be given annually.

§4.10. Grading.

Candidates shall be notified of passing or failing but shall not be notified of their grades. All requests for score appeals shall be received within one year of the date the examination was administered, after which examinations will no longer be retained.

A. Each part of the written examination for Part I of the 3(a) examination shall have a value of 100. The passing grade shall be 70.

B. For Part II of the (3) (a) examination, each applicant must obtain a minimum passing grade of 70.

C. For the (3) (b) examination, each applicant must obtain a minimum passing grade of 75 for the entire eight-hour examination.

§4.11. Reexamination eligibility.

Should the applicant not pass that examination approved for within two years of the applicant's first sitting, the applicant must reapply for examination. In considering any applicant for requalification, the Land Surveyor Section shall consider all prior examination results as part of the review. The Land Surveyor Section, if

Table II

TABLE OF EQUIVALENTS FOR EDUCATION, TRAINING AND EXPERIENCE FOR CERTIFIED LANDSCAPE ARCHITECTS

	EDUCATION			TRAINING EQUIVALENTS		PRACTICE EQUIVALENTS	
EXPERIENCE DESCRIPTION	FIRST 2 YEARS	SUCCEEDING YEARS	MAXIMUM CREDIT ALLOWED	CREDIT ALLOWED	MAXIMUM CREDIT ALLOWED	CREDIT ALLOWED	MAXIMUM CREDIT ALLOWED
1. Degree in landscape architecture or credits from accredited school of landscape architecture.	100%	100%	5 years				
2. Degree in landscape architecture or credits from non-accredited school of landscape architecture	100%	67%	4 years				
3. Degree or credits in architecture, civil, mechanical engineering from school accredited by ECPO or NAAB.	100%	50%	3 years				
4. Same as 3, except from non-accredited school.	75%	50%	2 1/2 years				
5. BS or AB Degree or higher education in courses other than landscape architecture.	75%	25%	2 years				
6. Experience as a registered landscape architect, or in a position of responsible charge in the offices of a registered landscape architect, who practices.	50%	50%	5 years	100%	no limit	100%	no limit
7. Practical training prior to acquisition of landscape architecture degree. A. Continuous employment periods, 12 mo. or more.				100%	no limit		
B. Continuous employment periods, 3 to 12 mos. in duration after 3 yrs. college.				75%	no limit		
C. Continuous employment periods, 3 to 12 mos. in duration prior to completion of 3 yrs. college.				50%	no limit		
8. Advanced degree from accredited school teaching or research in accredited school.				100%	2 years	100%	5 years
9. Employment by govt. agencies, engineers, general contractors in areas directly related to construction, and those self-employed in one of above.				50%	2 years		
10. Employment by govt. agencies, including the military, when diversified and comparable to employment in the office of a registered landscape architect with a verified record of substantial practice. Such work shall							

be directly related to landscape architectural work and shall be under the direct supervision of a registered landscape architect. This section shall also apply to those registered landscape architects employed in capacity of managers.	100%	no limit	100%	no limit
11. Employment by organizations that have employees performing landscape architectural services in connection with projects used or owned by that organization when said employment is directly related to landscape architectural work, is under the direct supervision of a registered landscape architect. This section shall also apply to those registered landscape architects employed in capacity of managers.	100%	no limit	100%	no limit
12. Employment or practice in such fields as interior design, architecture, engineering, city planning, and periods of employment with such organizations as VISTA, HUD, PEACE CORPS and ADVOCACY PLANNING.	100%	2 years	100%	5 years

EDUCATION

With a passing grade, 32 semester credit hours or 48 quarters credit hours is considered to be one year. Fractions greater than one-half year will be counted one-half year and smaller fractions will not count.

BOARD OF COMMERCE

POLICY ON "CONTINUING EDUCATION"

"Continuing Education" is a widespread, much-used term, gathering perceptions and interpretations as varied as its uses. It has been been suggested as a panacea for poor educational systems, a remedy for maintaining competence in dynamic and changing professions, a guarantor for future excellence.

"Continuing Education" has also been used as a barrier to trim away part-time or marginal practitioners of an occupation or profession, by making the requirements so extensive that it no longer becomes practically or financially feasible for one to maintain licensure in order to practice that profession. When that occurs, it has the impact of reducing the number of practitioners, reducing competition within an occupation, and ultimately driving up costs of the regulated service.

In Virginia, occupations and professions are governed by the legislative and administrative philosophy found in Section 54.1-100, Code of Virginia. That power to regulate is reserved for the exclusive purpose of protecting the public interest where there is no other reasonably effective method available, and when the regulation imposed is the least burdensome mechanism available to protect the public.

Over the past decade, the thrust has generally been to remove continuing education requirements for continued professional licensure, except when the above-stated test has been met. However, the Virginia Code Commission, in House Document 23 of the 1988 Session of the General Assembly, and in Chapter 756, Acts of Assembly, 1988 Session, gave to regulatory boards the specific authority in S. 54.1-103 to require "additional training or conditions for persons seeking certification or licensure, or for the renewal of certificates or licenses."

In addition, the federal government, either through regulation or legislation, is continuing to add requirements for continuing professional education to some regulated occupations or professions.

Accordingly, it is the policy of the Virginia Board of Commerce that no continuing professional education requirements should be imposed on an occupation or profession regulated under Title 54.1, Subtitle I and II, unless and until such requirements have been examined under the conditions of S. 54.1-100, Code of Virginia, and have been found to have met those tests; or, unless such requirements are mandated by federal requirements for Virginia professionals and occupational licensees to maintain national standing.

This policy will be communicated to each new member of the Board of Commerce, and each member appointed to a regulatory board within the Department of Commerce.

DEPARTMENT OF PERSONNEL AND TRAINING

LICENSURE STUDY - 1 9 8 9

AGENCY	CLASS	EMPLOYEE	LICENSE	DEGREE
MILITARY AFFAIRS	ARCHITECT	4	2	4
	ARCHITECT CONS.	1	1	1
	CAPITAL OUTLAY-			
	PROJECT ENGINEER	2	0	2
	PROGRAM MANAGER	2	0	0
	CIVIL ENGINEER	3	0	2
STATE POLICE	INSTITUTIONAL PLAN-			
	& CONSTRUCTION ENG.C.	1	0	1
HOUSING & C.D.	SAFETY ENGINEER	1		
	SAFETY ENGINEER SR.	2	1	1
	SAFETY ENGINEER SUP.	6		4
	STATE FIRE MARSHALL	1		1
V.E.C.	INSTITUTIONAL PLAN-			
	& CONSTRUCTION ENG.B.	1	0	0
	& CONSTRUCTION ENG.C.	1	0	0
GENERAL SERVICES	ARCHITECT CONSULTANT	6	1	5
	STATE REVIEW ARCHITECT	4	4	4
	CAPITAL OUTLAY-			
	PROGRAM DIRECTOR	1	1	1
	PROGRAM AST. DIR.	2	2	2
	PROGRAM MANAGER	1	1	1
	ELECT. ENGINEER SR	1	0	1
	ENG.&BLDG. AST. DIR.	2	1	2
	ENG.&BLDG. PROG. MGR.	3	1	3
	G.S. DEP.DIR.ENG.BLDGS	1	1	1
	LAND INFO. SYS. MGR.	1	1	1
	MECHANICAL ENGINEER	1	0	0
	MECHANICAL ENGINEER SR.	2	0	0
	MECH.ENG. CONSULTANT	6	1	4
	STATE CAP.OUT.REV.MGR.	1	1	1
	STATE CAP.OUT.REV.SUP.	2	2	2
	STATE REVIEW ENGINEER	7	6	5

DEPARTMENT OF PERSONNEL AND TRAINING

LICENSURE STUDY - 1 9 8 9

AGENCY	CLASS	EMPLOYEE	LICENSE	DEGREE
CONSERVATION	ARCHITECT SENIOR	2	2	2
	CAPITAL OUTLAY- PROJECT ENGINEER	2	0	1
	CIVIL ENGINEER	2	0	1
	ENVIRON. ENGINEER	3	0	0
	ENVIRON. ENG. SR.	10	2	6
EDUCATION	ARCHITECT CONSULTANT	3	1	3
	B&G DIRECTOR B	1	1	1
WILLIAM & MARY	CAPITAL OUTLAY- PROJECT ENGINEER	2	0	1
U.V.A.	ARCHITECT	11	5	2
	ARCHITECT SR.	3	2	1
	ARCHITECT CONSULTANT	1	1	0
	UNIVERSITY ARCHITECT	1	1	0
	ARCH.FOR HIST. B&G	1	1	0
	CHIEF ARCHITECT	1	1	0
	CAPITAL OUTLAY- PROJECT ENGINEER	5	2	5
	PROGRAM MANAGER	5	3	4
	ASSC.DIR.FAC.MGT.	1	1	0
	ASST.V.P. PHY.PLANT	1	1	1
	DEP.TO ASST.VP PHY PLA.	1	1	0
	DIR. FOR OPS. PHY PLANT	1	1	1
	B&G DIRECTOR A	1	1	1
	B&G DIRECTOR B	1	1	1
	CIVIL ENGINEER	4	2	2
	DIRECTOR FOR PLANNING	1	1	0
	ELECTRICAL ENGINEER	5	1	3
	ENG.&DESIGN SERV. MGR.	1	1	1
	INSTITUTIONAL PLAN.- & CONSTRUCTION ENG. A.	1	0	0
	& CONSTRUCTION ENG. B.	1	0	0
	MECHANICAL ENGINEER	2	2	1
	MECHANICAL ENG. SR.	3	2	2
	MECHANICAL ENG. CONS	2	2	2
	SAFETY ENGINEER SR.	2	1	0

DEPARTMENT OF PERSONNEL AND TRAINING

LICENSURE STUDY - 1 9 8 9

AGENCY	CLASS	EMPLOYEE	LICENSE	DEGREE
V.P.I.	ARCHITECT B	1	1	1
	ARCHITECT C	1	1	1
	ARCHITECT	3	0	0
	ARCHITECT SENIOR	5	4	4
	CAPITAL OUTLAY-			
	PROJECT ENGINEER	1	0	1
	PROGRAM MANAGER	3	1	2
	PROG.ASST.DIR	1	0	0
	CIVIL ENGINEER	2	0	0
	ELECTRICAL ENGINEER	1	0	1
	ELECTRICAL ENGINEER SR	1	0	1
	ELECTRICAL ENG. A	17	0	2
	ELECTRICAL ENG. B	22	1	7
	ELECTRICAL ENG. C	7	0	3
	INSTITUTIONAL PLAN.-			
	& CONSTRUCTION ENG.B.	1	0	0
	MECH. ENGINEER	3	1	1
	MECH. ENGINEER SR.	1	1	1
	MECH. ENGINEER C	1	0	1
	SAFETY ENGINEER SR.	4	0	1
	T.V. SYS. ENGINEER A	1	0	0
	T.V. SYS. ENGINEER B	2	0	0
	COMM. ENG. MGR.	1	0	0
	COMM. ENGINEER	2	0	1
	BLDG.CONST. INSPECTOR	2	0	0
	DRAFTING TECH A	1	0	0
	DRAFTING TECH B	5	0	1
	SURVEY TRANSIT MAN	1	0	0
VIRGINIA STATE	MECH. ENGINEER CONS.	1	0	1
NORFOLK STATE	CAPITAL OUTLAY-			
	PROJECT ENGINEER	1	0	1
JAMES MADISON	CAPITAL OUTLAY-			
	PROJECT ENGINEER	4	1	1
	ELECTRICAL ENGINEER A	4	0	1
	ELECTRICAL ENGINEER B	2	0	1
	MECH. ENGINEER SR.	1	0	1
	MECH. ENGINEER CONS.	1	1	1

DEPARTMENT OF PERSONNEL AND TRAINING

LICENSURE STUDY - 1 9 8 9

AGENCY	CLASS	EMPLOYEE	LICENSE	DEGR
RADFORD	CAPITAL OUTLAY- PROGRAM MANAGER	1	0	0
	CIVIL ENGINEER	1	1	1
	MECHANICAL ENGINEER	1	0	0
OLD DOMINION	ARCHITECT	1	1	0
	CAPITAL OUTLAY- PROJECT ENGINEER	2	1	1
	INSTITUTIONAL PLAN.- & CONSTRUCTION ENG. C.	2	0	1
	LANDSCAPE SUPERVISOR	1	1	1
	MECHANICAL ENGINEER C.	1	0	1
V.C.U.	ARCHITECT A	1	0	0
	ARCHITECT B	2	0	1
	INSTITUTIONAL PLAN.- & CONSTRUCTION ENG. A.	2	0	0
	& CONSTRUCTION ENG. B.	1	0	0
	& CONSTRUCTION ENG. C.	2	0	0
	MECHANICAL ENGINEER B	2	0	0
	PLANNING AND CAPITAL- OUTLAY PROG. AST. DIR.	1	0	0
	SAFETY ENGINEER SR.	2	0	1
	UNIVERSITY SAFETY ANAL.	2	0	0
CHRISTOPHER NEWPORT	CAPITAL OUTLAY- PROJECT ENGINEER	1	0	0
	ELECTRICAL ENGINEER A	2	0	1
GEORGE MASON	CAPITAL OUTLAY- PROJECT ENGINEER	3	0	2
	PROGRAM MANAGER	1	1	1
	V.P. FOR FACILITIES	1	1	1
	DIR. FACILITIES PLNG.	1	1	1
	ASSOC. DIR. FAC. PLNG.	1	0	1
	DIR. CONSTRUCTION	1	1	1
	INSTITUTIONAL PLAN.- & CONSTRUCTION ENG. C.	1	1	1
	SAFETY ENGINEER SR.	1	0	0

DEPARTMENT OF PERSONNEL AND TRAINING

LICENSURE STUDY - 1 9 8 9

AGENCY	CLASS	EMPLOYEE	LICENSE	DEGREE
COMMUNITY COLLEGE	CAPITAL OUTLAY-			
	PROGRAM AST. DIR.	1	0	1
	PROGRAM MANAGER	2	0	0
	PROJECT ENGINEER	4	1	3
MARINE RESOURCES	ENVIRONMENTAL ENGINEER	8	0	0
	M.R. ENGINEERING CHIEF	1	1	1
	SURVEYOR	4	3	0
	TRANS. TECH. PROG. SUP.	1	1	0
PORT AUTHORITY	CAPITAL OUTLAY-			
	PROGRAM AST. DIR.	1	1	1
CHESAPEAKE BAY	ENV.TECH.SER.ADMN.	1	1	1
	ENV. ENGINEER SR.	1	0	0
MINES/M/ENERGY	ABANDONED MINES MGR	1	0	0
	ASST. DIR. MINES	1	0	0
	ENVIRONMENTAL ENG SR.	5	2	4
	MINERAL DIV. DIRECTOR	1	0	0
	MINE INSPECTOR SUPV.	1	0	0
	MINE INSPECTOR	1	0	0
	OIL & GAS INSPECTOR	1	0	0
	RECLAMATION AREA SUPV.	2	0	0
	RECLAMATION ENGINEER	1	1	1
FORESTRY	ELECTRICAL ENGINEER	1	0	0
WATER CONTROL	ENVIRONMENTAL ENG.	16	0	2
	ENVIRONMENTAL ENG. SR.	36	0	14
	ENVIRONMENTAL ENG.CONS.	20	1	7
	ENV.TECH.SERV.ADMN.	2	0	0
WASTE MANAGEMENT	ENVIRONMENTAL ENG. SR.	11	2	11
	ENVIRONMENTAL ENG.CONS.	9	1	7
	ENV.TECH.SERV.ADMN.	4	1	4
AIR POLLUTION	ENVIRONMENTAL ENG.	8	0	3
	ENVIRONMENTAL ENG. SR.	21	1	12
	ENVIRONMENTAL ENG.CONS.	7	2	3

DEPARTMENT OF PERSONNEL AND TRAINING

LICENSURE STUDY - 1 9 8 9

AGENCY	CLASS	EMPLOYEE	LICENSE	DEGREE
HISTORIC RESOURCES	ARCHITECT A	1	0	1
V.D.O.T.	ASST. CHIEF ENGINEER	1	0	1
	CAPITAL OUTLAY-PROJECT ENGINEER	2	0	0
	ELECTRICAL ENGINEER	4	0	2
	ELECTRICAL ENGINEER SR.	2	0	2
	ELECTRICAL ENGINEER A	1	0	0
	ENVIRONMENTAL MGR-FIELD	7	1	0
	ENVIRONMENTAL PROG. MGR.	3	0	3
	HWY. DIS. ENGINEER	9	2	8
	HWY. CHIEF ENGINEER	1	1	1
	HWY. DIR. OF ENG.	1	0	1
	HWY. AST. DIS. ENG.	20	6	15
	HWY. DIS. UTIL. ENG.	8	0	0
	HWY. DIV. ADMN.	5	3	3
	HWY. DIV. ASST. ADMN.	17	4	9
	HWY. RESEARCH DIR.	1	1	1
	HWY. RESEARCH SCI. B.	4	0	1
	HWY. RESEARCH SCI. C.	14	4	7
	HWY. SR. RESEARCH SCI.	11	5	7
	HWY. SR. RESEARCH SCI.	11	5	7
	MECHANICAL ENGINEER	2	0	2
	MECHANICAL ENGINEER SR.	1	0	1
	SAFETY ENGINEER	6	0	0
	SAFETY ENGINEER SR.	3	0	0
	SAFETY ENGINEER MGR.	1	0	0
	TRANS. ENG. TRAINEE	21	0	19
	TRANS. ENGINEER	213	4	55
	TRANS. ENGINEER SR.	82	14	21
	TRANS. ENG. PROG. SUPV.	106	24	38
	TRANS. RESIDENT ENGINEER	46	8	26
	TRANS. ASST.RESIDENT ENG.	60	2	21
HEALTH	ARCHITECT CONSULTANT	1	1	1
	ENVIRONMENTAL ENG.	19	5	19
	ENVIRONMENTAL ENG. SR	24	10	24
	ENVIRON. ENG.CONS.	9	8	9
	ENV.TECH.SERV.ADMN.	2	2	2

DEPARTMENT OF PERSONNEL AND TRAINING

LICENSURE STUDY - 1 9 8 9

AGENCY	CLASS	EMPLOYEE	LICENSE	DEGREE
CORRECTIONS	ARCHITECT CONSULTANT	3	1	2
	CAPITAL OUTLAY-			
	PROGRAM AST. DIR.	3	2	2
	PROGRAM DIRECTOR	2	2	2
	PROGRAM MANAGER	4	0	2
	PROJECT ENGINEER	1	0	1
	ELECTRICAL ENG. SR.	1	1	1
	ENVIRONMENTAL ENG. SR.	2	1	2
	ENVIRONMENTAL ENG.CONS.	2	0	0
	INSTITUTIONAL PLAN-			
	& CONSTRUCTION ENG. B.	1	0	0
	MECHANICAL ENG. CONS.	1	1	1
MENTAL HEALTH/MR	ARCHITECT CONSULTANT	3	2	3
	CAPITAL OUTLAY-			
	PROGRAM AST. DIR.	1	1	0
	PLANNING & CAPITAL-			
	OUTLAY PROG.AST.DIR.	1	1	0
	OUTLAY PROG.DIRECTOR	1	0	0
AVIATION	CIVIL ENGINEER	2	0	1
A.B.C.	ARCHITECT	1	0	0
	GRAND TOTAL:	1,202	223	561

COMMONWEALTH of VIRGINIA

C.M.G. BUTTERY, M.D.
COMMISSIONER

Department of Health
Richmond, Virginia 23219

July 11, 1989

COPY

MEMORANDUM

TO: Members, Subcommittee for HJR 408

FROM: C. M. G. Buttery, M.D., M.P.H.
State Health Commissioner

SUBJECT: Health Department Engineers

It might be helpful for your study of whether or not to eliminate the licensure exemption for government engineers to give some statistics on the engineers employed by the Department of Health. All the engineers employed by the Department are in the Office of Water Programs. Current authorization for engineers is 65. As of this writing, 64 positions are filled. The attached table is based upon 65 positions assuming the vacant position will be filled with an individual having only a BS degree since the vacant position is at entry level. You will note that 30 of the 65 positions (46%) are filled by engineers having a Masters degree with all engineers having at least a Bachelor of Science degree. Of the 65 engineering positions, 34 (52%) are held by licensed professional engineers and 13 (20%) are held by certified engineers in training (EIT) for a total of 47 (72%) engineers in some step of licensure.

House Bill 1355, considered by the 1989 General Assembly, contained a definition for "responsible charge" which reads as follows: "Responsible charge' means engaging in the practice of engineering . . . with (i) full responsibility and authority to make independent engineering . . . decisions, or (ii) the right and duty to carry out independently or directly supervise and control the engineering . . . work of employees over whom supervisory authority is exercised and to authorize and make additions, deletions, modifications or alterations to his and their work with full responsibility for its content . . . ." Based on this definition there are 19 engineering positions in the Department

which fit the definition starting with the class title environmental engineer consultant at grade 14 through public health engineering office director at grade 17. All of these positions are occupied by licensed professional engineers.

If you have any questions, Mr. Eric H. Bartsch, P.E., Director, Office of Water Programs, will be glad to answer them at your August meeting.

cc: The Honorable Eva S. Teig
Secretary of Health and Human Resources

Angela P. Bowser
Division of Legislative Services

Members, Subcommittee for HJR 408

The Honorable Alson H. Smith, Jr.
The Honorable Robert E. Russell
The Honorable Frank W. Nolen
The Honorable V. Earl Dickinson
The Honorable Robert L. Calhoun
The Honorable James F. Almand
The Honorable Alan E. Mayer
The Honorable Eva S. Teig, Ex Officio
The Honorable Vivian E. Watts, Ex Officio
The Honorable Carolyn J. Moss, Ex Officio
Mr. William F. LaVecchia, Henrico County Manager
Mr. Robert C. Gibson, P.E.

Salary Grade	Class Title	Working Title	Total In Class	Degree		Status of Licensure			Responsible Charge Engineer
				BS*	MS**	EIT	PE	None	
12	Environmental Engineer	Assistant District Engineer	22	22	5	5	5	12	No
13	Environmental Engineer Senior	District Engineer	22	22	9	7	10	5	No
		Environmental Engineer Senior	2	2	0	1		1	No
14	Environmental Engineer Consultant	Assistant Regional Director	6	6	4	0	6	0	Yes
		Assistant Technical Services Chief	2	2	1	0	2	0	Yes
15	Public Health Engineering Regional Director	Regional Director	6	6	6	0	6	0	Yes
15	Environmental Technical Services Administrator	Technical Services Chief	2	2	2	0	2	0	Yes
16	Public Health Engineering Division Director	Division Director	2	2	2***	0	2	0	Yes
17	Public Health Engineering Office Director	Office Director	1	1	1	0	1	0	Yes
		TOTAL	65	65	30	13	34	18	

* Note Bachelor of Science In Civil or Chemical Engineering

** Note Master of Science or Master of Engineering either in Sanitary or Environmental Engineering in addition to BS Degree

*** Note One incumbent has a PhD in Sanitary Engineering

COMMONWEALTH of VIRGINIA
Department of Personnel and Training

DPT Response to
HJR 408 Subcommittee
Request for Information

MEMORANDUM

TO: **Members of the Joint Legislative Subcommittee Studying the Regulations of Engineers, Architects, and Land Surveyors and the Exemption from Licensure of Employees of the Commonwealth and its Localities - House Joint Resolution 408**

At the last subcommittee meeting, you requested information regarding the number of degreed engineers who were not licensed because they lack the necessary work experience. Of the 671 engineers who are ineligible for licensure, 73 are degreed but lack the necessary work experience. If we include these degreed employees with those currently licensed or eligible, 48% of the engineers would not be affected by the removal of the exemption from licensure.

Of the 15 architects who are ineligible for licensure, 11 are degreed but lack the necessary work experience. If we include these degreed employees with those currently licensed or eligible, 93% of the architects would not be affected by the removal of the exemption from licensure. See Chart 1.

You requested additional information regarding "responsible charge" positions to include the number of licensed engineers in "responsible charge" positions and a "break-out" of Virginia Department of Transportation's (VDOT) data. In analyzing this data, it is clear that VDOT would experience the most significant negative impact from the elimination of the exemption for licensure. However, it is important to note that 76% of the "responsible charge" positions in agencies other than VDOT are <u>not</u> licensed and would also be negatively affected. See Chart 2.

The final data requested was a compensation comparison of those states requiring a license and the Commonwealth of Virginia. In reviewing this data, it reveals that few of the southeastern states surveyed require licensure of their transportation and environmental engineers. The salary we pay engineers is

very competitive with those states that require licensure. See Chart 3.

It is our concern that if licensure of engineers is required, that the forces of supply and demand will have an affect on salaries and recruitment of engineers. A licensure requirement will increase the demand for registered engineers. It is the increased demand set against the current supply, not the competitive salaries with other states, that could raise the level of salaries for licensed engineers.

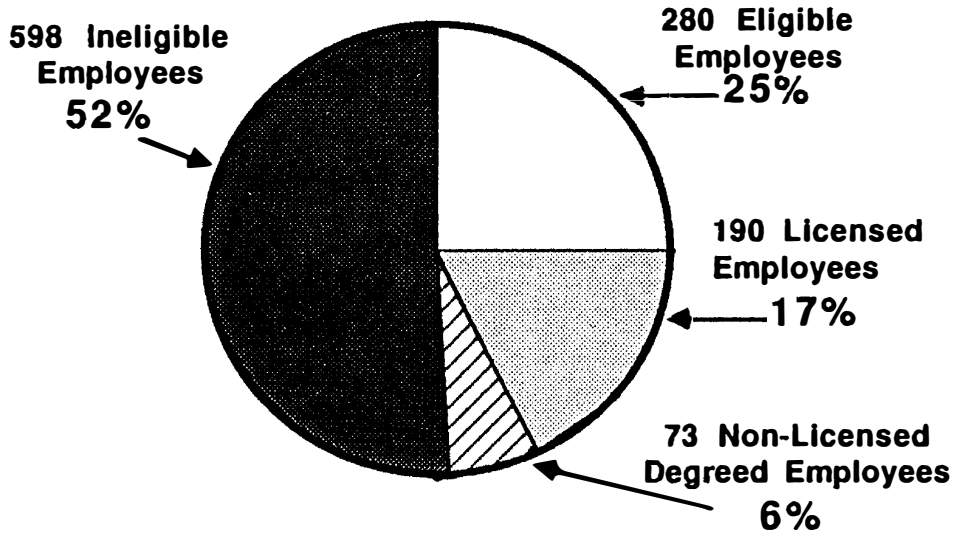
Thank you for the opportunity to participate in your evaluation of the issues surrounding the possible elimination of the licensure exemption for public sector engineers, architects and land surveyors. Should you require any additional information, please feel free to contact me.

Karen F. Washabau
Acting Director

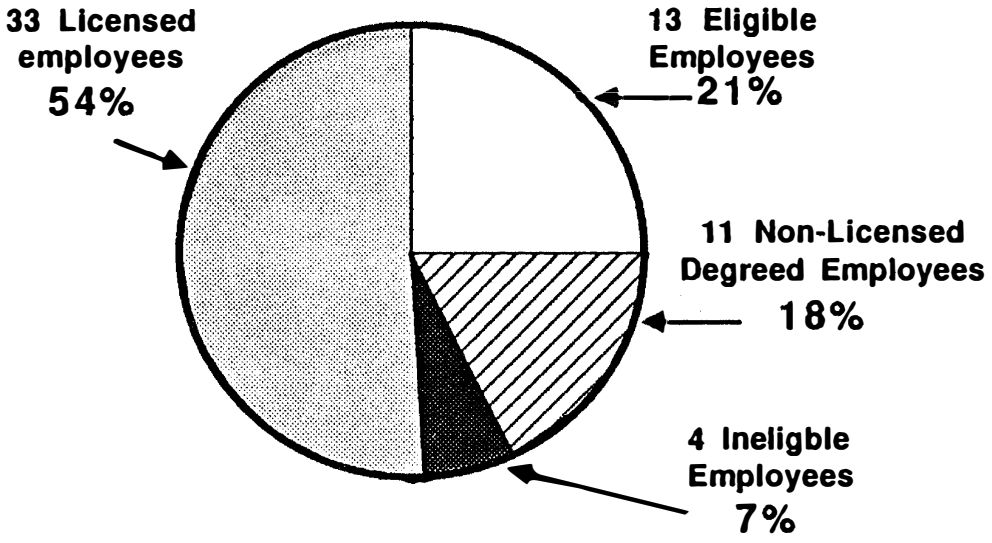
/tds

CHART 1

Current Licensure Status of the 1,141 Engineers in the Commonwealth of Virginia



Current Licensure Status of the 61 Architects in the Commonwealth of Virginia



* Shaded areas represent employees impacted negatively by removal of licensure

APPENDIX V

CHART 2

Commonwealth of Virginia
Responsible Charge Engineers

	Total Responsible Charge	Licensed	Not Licensed
VDOT	538	61 (11%)	477(88%)
Other Agencies	203	49 (24%)	154 (76%)
Total	741	110 (15%)	631(85%)

	Total Responsible Charge Not Licensed	Eligible	Ineligible
VDOT	477	125 (26%)	352 (74%)
Other Agencies	154	56 (36%)	98 (64%)
Total	631	181 (29%)	450 (71%)

ENGINEERING COMPENSATION SURVEY

Report by the Department of Personnel and Training

August 1989

Engineering Turnover Data

CLASS TITLE	FISCAL YEAR 88/89
Transportation Engineer Senior	2.5%
Transportation Engineer Program Supervisor	0.0%
Transportation Resident Engineer	0.0%
Highway Division Administrator	0.0%
Highway District Engineer	11.1%
Environmental Engineer Senior	3.0%
Environmental Engineer Consultant	6.0%
Public Health Engineer Bureau Director	0.0%
Public Health Engineer Division Director	0.0%
Statewide Turnover	**11.2%**

Engineering Starting Pay Data

This chart indicates the percentage of new hires with a starting salary above the midpoint of the salary range.

The parenthesis following the percentage figure indicates the number of total hires. For example, if there has been only one hire the percentage would be displayed as 100% (1). In situations where only one or two employees have been hired, the percentage figure is statistically invalid.

CLASS TITLE	FISCAL YEAR 88/89
Transportation Engineer Senior	0.0%
Transportation Engineer Program Supervisor	0.0%
Transportation Resident Engineer	0.0%
Highway Division Administrator	0.0%
Highway District Engineer	0.0%
Environmental Engineer Senior	19.0%
Environmental Engineer Consultant	100.0% (1)
Public Health Engineer Bureau Director	0.0%
Public Health Engineer Division Director	0.0%
Statewide Hires Above Midpoint	**16.0%**

Engineer Survey Results

A salary survey was conducted of surrounding states and private industry to determine the Commonwealth's current competitiveness and the effect of licensure on the salaries of engineering classes. The states included in the survey are North Carolina, South Carolina, Georgia, Florida, Maryland, Tennessee, and Kentucky. The average salary paid by private firms is represented by the Executive Compensation Service, Incorporated (ECS). This is an independent firm which conducts salary surveys of various occupations.

Several Commonwealth occupational classes have been surveyed and the results are displayed below. Differences in salaries and the number of responding states which require licensure are indicated for each class.

The effective date of the salary data is fiscal year 1988-89. Dollar amounts are displayed in thousands.

Virginia Class Title: Transportation Engineer Senior

	MINIMUM	MIDPOINT	MAXIMUM
Other States	$26.4	32.9	39.3
Virginia	$28.3	33.5	38.7
Difference	+ 6.6%	+1.9%	- 1.6%
ECS	$27.3	33.8	40.3
Virginia	$28.3	33.5	38.7
Difference	+ 3.5%	- 0.9%	- 4.1%

** One of the seven surveyed states required licensure for this class

Virginia Class Title: Transportation Engineer Program Supervisor

	MINIMUM	MIDPOINT	MAXIMUM
Other States	$28.6	36.1	43.5
Virginia	$31.0	36.6	42.3
Difference	+ 7.7%	+ 1.4%	- 2.9%
ECS	$30.3	40.9	51.5
Virginia	$31.0	36.6	42.3
Difference	+ 2.3%	-11.7%	-21.7%

** One of the seven surveyed states required licensure for this class

Virginia Class Title: Transportation Resident Engineer

	MINIMUM	MIDPOINT	MAXIMUM
Other States	$30.6	38.2	45.7
Virginia	$33.8	40.0	46.2
Difference	+ 9.5%	+ 4.5%	+ 1.1%

No match was found with the ECS survey

** One of the five surveyed states required licensure for this class

Virginia Class Title: Highway Division Administrator

	MINIMUM	MIDPOINT	MAXIMUM
Other States	$37.8	47.7	57.6
Virginia	$40.4	47.8	55.2
Difference	+ 6.4%	0.0%	- 4.3%

No match was found with the ECS survey

** Two of the six surveyed states required licensure for this class

Virginia Class Title: Highway District Engineer

	MINIMUM	MIDPOINT	MAXIMUM
Other States	$40.1	50.6	61.0
Virginia	$44.2	52.3	60.4
Difference	+ 9.2%	+ 3.3%	- 1.0%

No match was found with the ECS survey

** Two of the six surveyed states required licensure for this class

Virginia Class Title: Environmental Engineer, Senior

	MINIMUM	MIDPOINT	MAXIMUM
Other States	$26.1	33.5	40.8
Virginia	$28.3	33.5	38.7
Difference	+ 7.7%	0.0%	- 5.5%
ECS	$26.5	33.0	39.4
Virginia	$28.3	$33.5	$38.7
Difference	+ 6.4%	1.6%	- 1.8%

** One of the seven surveyed states required licensure for this class

Virginia Class Title: Environmental Engineer Consultant

	MINIMUM	MIDPOINT	MAXIMUM
Other States	$29.6	37.0	44.3
Virginia	$31.0	36.7	42.3
Difference	+ 4.5%	- 1.0%	- 4.7%
ECS	$30.5	42.5	54.4
Virginia	$31.0	36.7	42.3
Difference	+ 1.6%	-15.8%	-28.6%

** One of the five surveyed states required licensure for this class

Virginia Class Title: Public Health Engineering Bureau Director

	MINIMUM	MIDPOINT	MAXIMUM
Other States	$33.9	41.5	49.1
Virginia	$37.0	43.8	50.5
Difference	+ 8.4%	+ 5.3%	+ 2.8%

No match was found with the ECS survey

** One of the seven surveyed states required licensure for this class

Virginia Class Title: Public Health Engineering Division Director

	MINIMUM	MIDPOINT	MAXIMUM
Other States	$37.9	46.7	55.2
Virginia	$40.4	47.8	55.2
Difference	+ 6.2%	+ 2.3%	0.0%

No match was found with the ECS survey

** One of the three surveyed states required licensure for this class

CHART 3

Engineer Survey Results - States Which Require Licensure

A salary survey was conducted of surrounding states and private industry to determine the Commonwealth's current competitiveness and the effect of licensure on the salaries of engineering classes. The states included in the survey are North Carolina, South Carolina, Georgia, Florida, Maryland, Tennessee, and Kentucky.

Several Commonwealth occupational classes have been surveyed and the results are displayed below. All the states shown require licensure for their positions.

The effective date of the salary data is fiscal year 1988-89. Dollar amounts are displayed in thousands.

Virginia Class Title: Transportation Engineer Senior

	MINIMUM	MIDPOINT	MAXIMUM
Kentucky	$26.4	32.9	39.3
Virginia	$28.3	33.5	38.7
Difference	+ 6.7%	+ 1.8%	- 1.6%

Virginia Class Title: Transportation Engineer Program Supervisor

	MINIMUM	MIDPOINT	MAXIMUM
Kentucky	$24.6	32.0	39.3
Virginia	$31.0	36.6	42.3
Difference	+20.6%	+12.7%	+ 7.1%

Virginia Class Title: Transportation Resident Engineer

	MINIMUM	MIDPOINT	MAXIMUM
Kentucky	$27.1	35.3	43.4
Virginia	$33.8	40.0	46.2
Difference	+19.8%	+11.8%	+ 6.1%

Virginia Class Title: Highway Division Administrator

	MINIMUM	MIDPOINT	MAXIMUM
North Carolina	$40.8	53.8	66.7
Kentucky	$29.9	38.9	47.8
Average	35.4	46.4	57.3
Virginia	40.4	47.8	55.2
Difference	+12.4%	+ 2.9%	- 3.8%

Virginia Class Title: Highway District Engineer

	MINIMUM	MIDPOINT	MAXIMUM
North Carolina	$40.8	53.8	66.7
Kentucky	32.9	41.5	50.0
Average	36.9	47.7	58.4
Virginia	44.2	52.3	60.4
Difference	+16.5%	+ 8.8%	+ 3.3%

Virginia Class Title: Environmental Engineer, Senior

	MINIMUM	MIDPOINT	MAXIMUM
Kentucky	$24.4	30.1	35.7
Virginia	$28.3	33.5	38.7
Difference	+13.8%	+10.1%	+ 7.8%

Virginia Class Title: Environmental Engineer Consultant

	MINIMUM	MIDPOINT	MAXIMUM
Kentucky	$24.5	32.0	39.4
Virginia	$31.0	36.7	42.3
Difference	+21.0%	+12.8%	+ 6.9%

Virginia Class Title: Public Health Engineering Bureau Director

	MINIMUM	MIDPOINT	MAXIMUM
Kentucky	$27.1	35.4	43.7
Virginia	$37.0	43.8	50.5
Difference	+26.8%	+19.2%	+13.5%

Virginia Class Title: Public Health Engineering Division Director

	MINIMUM	MIDPOINT	MAXIMUM
North Carolina	$37.2	50.4	63.6
Virginia	$40.4	47.8	55.2
Difference	+ 7.9%	- 5.4%	-15.2%

APPENDIX VIII

Virginia Association of Counties

CONNECTING COUNTY GOVERNMENTS SINCE 1934

1001 East Broad Street, Suite LL20
Richmond, Virginia 23219
804/788-6652

September 22, 1989

To: County Chief Administrative Officers

From: Larry Land, Intergovernmental Relations Coordinator

Subject: Survey of Government Engineers "In Responsible Charge"

A legislative study committee (under the Authority of House Joint Resolution 408) is considering legislation that will require a professional engineer's license for all engineers in "responsible charge" of engineering decisions which affect public health and safety - without distinction between public and private employers.

For the purpose of this survey, the term "responsible charge" means the right and the duty to: 1.) review the engineering work performed by non-licensed employees; 2.) where appropriate, supervise and make additions, deletions, modifications in the plans, specifications, drawings, reports, and other engineering documents; and 3.) also where appropriate, to alter engineering work accomplished by licensed engineers outside the agency. (See the excerpts from the Code of Virginia which are enclosed with this memo.)

In order to obtain some reliable information concerning the effects that such legislation may have upon county governments, the Virginia Association of Counties is conducting a survey. Your cooperation in returning a completed copy of the enclosed survey form will help to focus the discussion on real issues instead of speculative impacts.

It would be highly appreciated if the enclosed survey form would be returned to Larry Land, Virginia Association of Counties, Old City Hall, 10th and Broad Streets, Richmond, Virginia, 23219 by October 6, 1989.

Virginia Association of Counties

Licensure Exemption: Survey

1.) How many of your employees regardless of classification or job title have "responsible charge" of engineering decisions that affect the public health and safety? _____

2.) Of the employees in Question No. 1, how many have a professional engineer's license from Virginia or some other state? _____

3.) Do you require all Engineers "in responsible charge" to hold a PE license? (YES or NO) _____

4.) Would requiring all Engineers "in responsible charge" to have a PE affect you fiscally? (YES or NO) _____

5.) If the answer to Number 4 is "yes," please indicate estimated annual additional cost to your locality: $_____

6.) Would requiring all Engineers "in responsible charge" to have a PE affect you fiscally if, (through a "grandfathering" provision) the requirement would not affect current employees? (YES or NO) _____

7.) If the answer to Number 6 is "yes," please indicate projected annual additional cost during the following time periods:

(first 5 years) $_____ (first 10 years) $_____

On a separate sheet of paper please feel free to describe any real concerns you may have relating to legislation which would repeal the existing government exemption in the Virginia engineering registration (license law).

Completed by: _____

Locality: _____

Address: _____

_____

Telephone: _____

Return to Larry Land, Virginia Association of Counties, Old City Hall, 10th and Broad Streets, Richmond, VA 23219 **by October 6, 1989.**

Licensure Eng. Survey

County	Population	Question1 Res. Char. Positions	Question2 Number w/ Licenses	Question 3 License Req.?	Question 4 Fiscal Effect?	Question 5 $Amount	Question 6 GF Fiscal Effect?	Question 7a $ Amount	Question 7b $Amount
Washington	47,400	0	0	n/a	no	$0	yes	$50,000	$100,000
Lee	26,200	0	0	n/a	no	$0	no	$0	$0
Pulaski	34,100	1	1	no	no	$0	no	$0	$0
Essex	8,900	1	0	no	yes	$50,000	no	$0	$0
Richmond	7,600	0	0	n/a	no	$0	no	$0	$0
Louisa	19,700	0	0	yes	no	$0	no	$0	$0
King William	10,300	0	0	no	no	$0	no	$0	$0
Botetourt	24,800	1	1	yes	no	$0	no	$0	$0
Amherst	29,000	0	0	no	no	$0	no	$0	$0
Nelson	12,600	2	0	no	yes	$30,000	yes	$150,000	$300,000
Halifax	29,500	4	0	no	yes	$40,000	no	$0	$0
Campbell	47,000	1	0	no	yes	$10,000	no	$0	$0
Frederick	38,200	0	0	no	no	$0	no	$0	$0
Henry	57,900	0	0	yes	yes	?	no	$0	$0
Scott	25,200	0	0	no	no	$0	no	$0	$0
Powhatan	13,500	0	0	no	no	$0	no	$0	$0
Caroline	19,300	1	0	no	yes	$10,000	yes	?	?
Rappahannock	6,400	2	0	no	yes	$5,000	yes	?	?
Shenandoah	29,100	0	0	yes	no	$0	no	$0	$0
Alleghany	13,400	0	0	yes	no	$0	no	$0	$0
Lunenburg	12,200	0	0	no	yes	$35,000	no	$0	$0
Giles	17,200	1	0	no	yes	$40,000	no	$0	$0
Spotsylvania	40,600	2	0	no	yes	$15,000	no	$0	$0
Clarke	10,700	1	0	no	?	?	?	?	?
Chesterfield	179,100	60	5	no	yes	?	yes	?	?
Prince Edward	17,600	0	0	no	no	$0	no	$0	$0
Goochland	13,000	1	1	yes	no	$0	no	$0	$0
Loudoun	71,500	7	4	no	yes	$15,000	yes	$75,000	$150,000
Rockingham	55,100	1	1	yes	no	$0	no	$0	$0
Dickenson	19,500	0	0	no	no	$0	no	$0	$0
Westmoreland	14,900	2	0	yes	no	$2,000	no	$0	$0
Fairfax	739,300	103	47	no	yes	$1,025,000	yes	$2,350,000	$4,300,000
[illegible]arles City	6,500	2	0	no	yes	$19,200	yes	$7,680	$13,440
[illegible]ngton	159,100	22	14	no	es	$80,000	yes	$80,000	$70,000
[illegible]e William	184,700	38	11	no	yes	$180,000	yes	$127,000	$260,000
Hanover*	56,400	(3/5)	(3/2)	yes/no	no/yes	(0/$37,500)	no/no	$0	$0

VIRGINIA ASSOCIATION OF COUNTIES

Statement to the Joint Committee Studying the Question of Licensure Exemption for Engineers Employed by State and Local Government

Mr. Chairman, members of the Committee, my name is Larry Land. I am the Intergornmental Relations Coordinator for the Virginia Association of Counties.

During your last meeting on September 18, you made a request that the Virginia Association of Counties conduct a survey which would elicit quantitative information revealing the fiscal effects over the first five years after any new law would go into effect which would remove the licensure exemption on county employees who have "responsible charge of engineering decisions."

In conducting this survey the following seven questions were asked:

1.) How many of your employees regardless of classification or job title have "responsible charge" of engineering decisions that affect public health and safety?

2.) Of the employees who have "responsible charge of engineering decisions" positions, how many have a Professional Engineer's License from Virginia or some other state?

3.) Do you require all engineers "in responsible charge" to hold a Professional Engineer's License? (Requiring a Yes or a No answer)

4.) Would requiring all Engineers "in responsible charge" to have a Professional Engineer's License affect you fiscally? (Yes or No)

5.) If the answer to (the previous question) is "yes," indicate the estimated annual additional cost to your locality.

6.) Would requiring all engineers "in responsible charge" to have a Professional Engineer's license affect you fiscally if, (through a "grandfathering" provision) the requirement would not affect current employees? (Yes or No)

7.) If the answer to Number 6 is "yes," please indicate projected annual additional cost during the first five years, and the first ten years.

In addition to the quantitative questions the counties were also asked to provide comments reflecting any additional concerns relating to the removal of the licensure exemptions for engineers employed by localities.

The Survey form was sent to the chief county administrative offficers of all ninety-three of VACo's member jurisdictions. Out of those ninety-three localities, thirty-six responded.

Of those thirty-six respondents, twenty-one indicated that they did have employees in positions where they were required to make "responsible charge of engineering decisions."

Of those twenty-one counties, eight indicated that they do require these "responsible charge" employees to hold Professional Engineer's licenses.

In response to the fourth question, sixteen counties indicated that there would be a first year fiscal impact if the licensure exemption was to be removed.

Of these sixteen counties, fifteen provided cost estimates which, as you will be able to tell from looking at the table, ranged between $2,000 and $1 million. The size of the estimates did seem to correlate in a fairly consistent way with the county size.

In response to the sixth question concerning whether or not there would be a fiscal effect if a grandfathering provision was included for the purpose of exempting current employees; ten counties answered in the affirmative, with seven of them providing estimates reflecting additional costs during the first five years. The range for this answer was between $7,600 and $2.3 million.

From these data that have been provided several conclusions may be drawn:

- The larger, more urbanized counties, employ larger engineering staffs and therefore would be affected by removal of the exemption.

- The smaller counties do enter into contracts for many or all of their projects. Still, however, there would be some counties (with populations under 25,000) that would be fiscally affected since they do have small staffs, yet still face some challenge of needing to meet higher personnel costs in order to make salaries more competitive with the private sector.

In addition to the fiscal effects, respondents did submit several comments, some of which, I would like to use this occasion to highlight:

First,

> according to one county which currently has a staff of sixty employees in so called "responsible charge" positions, there are currently enough problems in attempting to recruit "qualified four year graduate civil engineers." "To be able to attract an individual with the career potential that a P.E. license gives him would even be more difficult."

Second,

> "if the county is forced to add professional engineer licensing as a job qualification, and if a licensed professional engineer is expected to have actual knowledge of plans, the County will be forced to add several new engineering positions and to upgrade more than fifty positions now filled by trained personnel who are not licensed professional engineers."

Third,

> a County Administrator from a small rural county (with a poulation of less that 10,000) writes that "repealing the existing government exemption to the engineering registration requirements would put an undue and disproportionate burden on small, rural governments to obtain the employment of registered Professional Engineers. While engineering work is

> typically contracted out to consulting firms which have Professional Engineers amongst their employees, rural governments need the flexibility to hire personnel who have the authority to exercise 'responsible charge' over projects within their municipal jurisdictions" This same county administrator goes on to comment ... "while it would be foolhardy to invite a liability lawsuit through the improper exercise of 'responsible charge' in subject matters unfamiliar to the licensed engineer, there are many decisions which affect public health and safety that are well within the capabilities of engineers who are not licensed."

Fourth,

> an official from an urban county with a population of over 150,000 commented further about additional potential problems with removing the licensure exemption since "a construction manager (and also Department Directors who oversee the work of engineers) could be defined as 'in responsible charge'."

The final comment from localities focuses on why there should be any change in the current law. Localities, which have expressed concern over this issue, commonly recognize the foolhardyness of inviting liability lawsuits, and endangering public health and safety, by allowing unqualified individuals to make decisions in matters which are not within their respective areas of expertise. This explains why local governments are more likely to hire consultants when the work of completing these more complex projects are outside of the scope of what local governments staffs should perform.

Good and reasonable people, with the best of intentions, (I am sure) may find reasons to disagree on this issue. In any event, because of the manner in which any new law removing licensure exemptions for locally employed engineers is likely to inconvenience and result in additional costs to some local governments, the Virginia Association opposes the removal of these exemptions, and would recognize this removal as a mandate that would be imposed for no compelling moral, or safety-related reason.

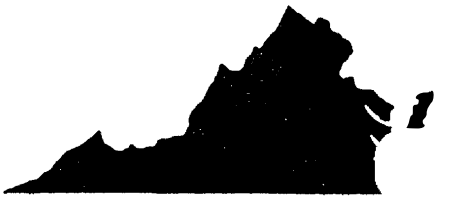
Today you may hear from several representatives from local governments who are far better able to comment on the potential

ramifications of any new legislation in a far more detailed, and in depth manner, than myself. I have tried to provide you with some information which may give you an idea of the fiscal impacts; and, if requested, I will be glad to try and provide additional information in the future if it is needed by the Committee.

Thank you for allowing me this opportunity to appear before you today.

Licensure Eng. Survey

County	Population	Question1 Res. Char. Positions	Question2 Number w/ Licenses	Question 3 License Req.?	Question 4 Fiscal Effect?	Question 5 $Amount	Question 6 GF Fiscal Effect?	Question 7a $ Amount	Question 7b $Amount
Washington	47,400	0	0	n/a	no	$0	yes	$50,000	$100,000
Lee	26,200	0	0	n/a	no	$0	no	$0	$0
Pulaski	34,100	1	1	no	no	$0	no	$0	$0
Essex	8,900	1	0	no	yes	$50,000	no	$0	$0
Richmond	7,600	0	0	n/a	no	$0	no	$0	$0
Louisa	19,700	0	0	yes	no	$0	no	$0	$0
King William	10,300	0	0	no	no	$0	no	$0	$0
Botetourt	24,800	1	1	yes	no	$0	no	$0	$0
Amherst	29,000	0	0	no	no	$0	no	$0	$0
Nelson	12,600	2	0	no	yes	$30,000	yes	$150,000	$300,000
Halifax	29,500	4	0	no	yes	$40,000	no	$0	$0
Campbell	47,000	1	0	no	yes	$10,000	no	$0	$0
Frederick	38,200	0	0	no	no	$0	no	$0	$0
Henry	57,900	0	0	yes	yes	?	no	$0	$0
Scott	25,200	0	0	no	no	$0	no	$0	$0
Powhatan	13,500	0	0	no	no	$0	no	$0	$0
Caroline	19,300	1	0	no	yes	$10,000	yes	?	?
Rappahannock	6,400	2	0	no	yes	$5,000	yes	?	?
Shenandoah	29,100	0	0	yes	no	$0	no	$0	$0
Alleghany	13,400	0	0	yes	no	$0	no	$0	$0
Lunenburg	12,200	0	0	no	yes	$35,000	no	$0	$0
Giles	17,200	1	0	no	yes	$40,000	no	$0	$0
Spotsylvania	40,600	2	0	no	yes	$15,000	no	$0	$0
Clarke	10,700	1	0	no	?	?	?	?	?
Chesterfield	179,100	60	5	no	yes	?	yes	?	?
Prince Edward	17,600	0	0	no	no	$0	no	$0	$0
Goochland	13,000	1	1	yes	no	$0	no	$0	$0
Loudoun	71,500	7	4	no	yes	$15,000	yes	$75,000	$150,000
Rockingham	55,100	1	1	yes	no	$0	no	$0	$0
Dickenson	19,500	0	0	no	no	$0	no	$0	$0
Westmoreland	14,900	2	0	yes	no	$2,000	no	$0	$0
Fairfax	739,300	103	47	no	yes	$1,025,000	yes	$2,350,000	$4,300,000
Charles City	6,500	2	0	no	yes	$19,200	yes	$7,680	$13,440
[illegible]lington	159,100	22	14	no	yes	$80,000	yes	$80,000	$70,000
[illegible] William	184,700	38	11	no	[illegible]es	$180,000	yes	$127,000	$260,000
[illegible]anover*	56,400	(3/5)	(3/2)	yes/no	[illegible]/yes	(0/$37,500)	no/no	$0	$0



Virginia Association of Counties

CONNECTING COUNTY GOVERNMENTS SINCE 1934

1001 East Broad Street, Suite LL20
Richmond, Virginia 23219
804/788-6652

November 16, 1989

The Honorable Frank W. Nolen
The Senate of Virginia
P.O. Box 13
New Hope, Virginia 24469

Dear Senator Nolen:

During the October 19 meeting of the Joint Subcommittee Studying Licensure Exemptions for Engineers, you asked me to enquire about salary ranges for individuals in "responsible charge" positions for certain rural counties. In most cases, as revealed in the survey I presented at that meeting, the smaller, rural counties enter into contracts for the completion of projects requiring the services of an engineer.

I have been able to compile some information for several counties you mentioned while you were making your request. This information appears below:

County	Number of Positions	Salary Range
Botetourt	1	$29,000-37,000
Goochland*	1	$45,000(approx.)
Nelson	2	$30,000-38,000
Rappahanock	2	$24,800-35,000

*(Goochland does require a PE for individuals in "responsible charge" positions.)

I hope you will find this information helpful. Since I will be on vacation on November 21, I will not be able to attend the Subcommittee's next meeting. I should, however, be able to attend the meeting which is scheduled for December 12.

Please do not hestitate to contact our office should you need any further information or assistance.

Sincerely,

Larry Land
Intergovernmental
Relations Coordinator

cc: Angela Bowser
Division of Legislative Services

VML Presentation to Subcommittee
Studying Licensure Laws of Engineers etc.
(HJR 408 - 1989)

October 19, 1989

Results of October 1989 Survey

	Cities	Towns	Counties	Total
Number of Respondents	31	70	16	117
Reported Number of Local Gov't.Engrs. in Responsible Charge	147	43	267	457
Number Localities requiring a PE	15	11	4	30
Number Localities reporting that a mandate would have fiscal impact	14	31	10	55

Of those localities who estimated the annual fiscal impact of requiring local government engineers to hold a PE license, the total cost to local governments was reported to be over $2.63 million per year.

VML

VIRGINIA MUNICIPAL LEAGUE

Local Governments Working Together Since 1905

OFFICERS
Warrenton Mayor
J. Willard Lineweaver
President
James City County
Board Chair
Jack D. Edwards
First Vice President
Blacksburg
Vice Mayor
Frances M. Parsons
Second Vice President
Waverly Mayor
William R. Hartz
Third Vice President
Martinsville Mayor
L. D. Oakes
Fourth Vice President

EXECUTIVE DIRECTOR
R. Michael Amyx

Magazine
VIRGINIA TOWN & CITY

Thirteen East Franklin,
P.O. Box 12203
Richmond, Virginia 23241
804/649-8471
FAX 804/343-3758

TO: Chief Administrative Officer
and Personnel Directors

As you know the General Assembly is studying pursuant to HJR 408) the possibility of removing the exemption which local governments now enjoy from requiring their engineers "in responsible charge" to hold a Professional Engineer (PE) license. Among the arguments advanced from VML is the perception that requiring local government engineers to have a PE license will likely increase the salary requirements these positions will demand.

The committee has asked us to substantiate this fiscal impact. Accordingly, please provide this data to me by October 6, 1989.

Sincerely,

James D. Campbell
Director, Intergovernmental Affairs

9/28/89

* * * * * * * * * * * * * * *

Name of Locality _____

Number of Engineers "in responsible charge" _____

Do you require your Engineers "in responsible charge" to hold a PE license? (YES or NO) _____

Would requiring all Engineers "in responsible charge to have a PE affect you fiscally? (YES or NO) _____

If yes, by how much each year? (cost in $) $_____

Please return by October 6, 1989 to:

James D. Campbell
Virginia Municipal League
P. O. Box 12203
Richmond, VA 23241

Results of Survey on Engineer Salaries in Neighboring States

Angela P. Bowser
Division of Legislative Services
12/29/89

MARYLAND

Does your locality (local government) employ engineers as salaried employees on a regular full-time basis?

Locality	Yes	No
Aberdeen	X	
Barton		X
Baltimore City	X	
Baltimore Cty.	X	
Bowie		X
Calvert County	X	
Cambridge	X	
Caroline County		X
Carroll County	X	
Cecil County	X	
Chevy Chase		X
Cottage City		X
Crisfield		X (utilizes consulting engineers on an as needed basis)
Cumberland	X	
District Hts.		X (hires RJN Engineering firm as needed)
Dorchester County	X	
Howard County	X	
Frederick Cty.	X	
Frostburg	X	
Gaithersburg	X	
Greenbelt City		X
Harford County	X	
Hyattsville		X
Indian Head		X
Kent County		X
LaPlata		X
Laurel	X	
Montgomery County	X	
New Carrollton		X (utilizes consulting engineer based on a standard hourly rate)

Ocean City	X	
Prince George's County	X	
Queen Anne's County	X	
Rockville	X	
Salisbury	X	
Talbot County	X	
Washington County	X	
Westminister		X

MARYLAND

Salary Range for the localities employing *licensed* engineers as salaried employees on a regular full-time basis:

Aberdeen starting $ 654/week
maximum $998/week (after 15 years)

Baltimore City

Engineer I	$ 23,622 to $ 28,815
Engineer II	$ 28,069 to $ 34,385
Engineer III	$ 34,000 to $ 41,500
Engineer Supervisor	$ 39,100 to $ 48,200

Some of these positions require an engineer-in-training certificate or registration as a professional engineer.

Baltimore County Five levels of engineers; only the 4th and 5th levels require professional engineer licensure

	Entry	Completion (5th year)	30 years
Engineer IV	$ 38,305	$ 48,054	$ 61,000
Engineer V	$ 41,774	$ 52,873	$ 67,010

Calvert County

County engineer (licensed)	$ 49,123 to $ 68,660
Transportation engineer (licensed)	$ 34,239 to $47,693

Cambridge Professional Engineer $ 35,000

Carroll County civil engineer manager $ 31,800 to $ 47,700
degree in civil engineering and registration as a P.E. and 4 years experience working as a civil engineer

Cecil County State code only requires the Director of Public Works to be a licensed engineer. The Director's salary is established by the County Commissioner on an individual basis. Current Director has been with the County 5 years and has an annual salary of $ 65,000. No other position in the county government has a P.E. requirement, but 4 engineers are currently employed. The salary range is $ 28,500 to $ 53,300.

Cumberland Director of Public Works (P.E. license required)
$ 32,445.92 to $39,127.14 five steps total
Engineer III $ 27,083 to $ 32,608

Dorchester County Engineer/ P.E. $ 31,000 to $ 41,000
Engineer/E.I.T. $ 23,000 to $ 30,000
six years to top of grade

Howard County salary based on 35-hour work week
P.E. required for Administrative Engineer with a salary range of $ 45,884 to $ 66,446
Job descriptions for Engineer III ($ 35,867 to $ 51,937) and Engineer IV ($ 39,587 to $ 57,354) provide that depending upon work assignment, a P.E. license may be required)
** In addition to the annual salary, the County offers a $ 1,600 per year P.E. licensure premium (paid quarterly) as a recruitment and retention bonus to Maryland registered professional engineers, architects and land surveyors.

Frederick County Chief Engineer $ 38,094 to $ 52,570
Senior Design Engineer $ 33,712 to $ 46,353

Frostburg Engineer (10 years experience with the City)
$ 37,235

Gaithersburg Public Works and Engineering Director
$ 41,589 to $ 64,902

Harford County Civil Engineering III $ 32,269 to $ 40,823
Chief, Engineering Division $ 37,638 to $ 47,611

Laurel Civil Engineer; licensed in Md.; 3 yrs. exper.
start $ 36,750 mid range $ 43,750

Montgomery County

Senior Engineer		supervisory	$ 35,141 to 58,341
Engineer III	fully skilled	$ 32,007 to 52.508	
Engineer II		developmental	$ 27,846 to 45,569
Engineer I		emtry	$ 24,247 to 39,576

Ocean City City Engineer (P.E. required)
$ 44,200 to $ 70,200

Prince George's County

	Min.	Mid.	Max.
Engineer I	$ 27,767	$ 34,342	$ 40, 917
Engineer II	$ 30,613	$ 37,862	$ 45,111
Engineer III	$ 35,438	$ 43, 830	$ 52,222
Engineer IV	$ 39,071	$ 48,323	$ 57,574
Engineer V	$ 45,229	$ 55,939	$ 66,649

Queen Anne's County — No salary given

Rockville (add 5% to salaries) — Civil engineer $ 28,222 to $ 39, 711
Sr. civil engineer $ 29,633 to $ 43,781
Supervising engineer $ 34,304 to $ 50,682
Deputy Director of Public Works
$ 39,711 to $ 55,877
Traffic engineer $ 31,115 to $ 45,970
Director of Public Works
$ 45,970 to $ 67,919
All are P.E.'s

Salisbury — Director of Public Works Department, P.E.
$ 43,787 to $ 55,534 (six grades)
5% longevity + after 10 yrs., 2.5% each 5 yrs.
Deputy Director, P.E.
$ 34,600 to $ 43,787 (salary benefits same as above)

Talbot County — County Engineer $ 55,000

Washington County

Min.	Mid.	Max.	Current Salary
County Engineer			
$35,986	$ 46,063	$ 52,122	$ 42,704
Assistant County Engineer			
$ 28,662	$ 36,686	$ 41,718	$ 36,686

#

NORTH CAROLINA

Does your locality (local government) employ engineers as salaried employees on a regular full-time basis?

Locality	Yes	No
Alleghany Cty.		X
Bertie County		X
Brunswick Cty.	X	
Buncombe County	X	
Burlington	X	
Caldwell County		X
Camden County		X
Chapel Hill	X	
Charlotte	X	
Chatham County		X
Cleveland Cty.		X
Clinton		X
Cumberland County	X	
Currituck Cty.		X
Dare County		X
Durham	X	
Durham County	X	
Fayettesville	X	
Forsyth County		X
Gaston County	X	
Greene County		X
Gates County		X
Greensboro	X	
Goldsboro	X	
Henderson		X
High Point	X	
Nash County		X
New Hanover County	X	
Orange County	X	
Oxford	X	
Pitt County	X	
Raleigh	X	
Rockingham County		X (estimated that the average salary would be $ 50,000)
Rutherford County		X
Sampson County		X
Stanly County		X
Tyrrell County		X
Wake County	X (but none of the positions require licensure)	

Warren County		X
Washington		X
Watauga County		X
Wayne County		X
Wilkes County		X
Wilmington City	X	
Wilson County		X
Winston-Salem	X	
Yadkin County		X

NORTH CAROLINA

Salary Range for the localities employing *licensed* engineers as salaried employees on a regular full-time basis:

Locality	Salary or Comment
Brunswick County	County Engineer (registration as a professional engineer) Grade 35 $ 43,308 to $ 69,256
Buncombe County	County Engineer/Inspections Supervisor (registered PE preferred) $ 21,502 $ 26,130 $ 36,764
Burlington	City Engineer- $ 34,656 to $ 50,340 Assistant City Engineer $ 29,064 to $ 42,228 Civil Engineer II $ 26,616 to $ 38,676
Chapel Hill	Engineering Director, P.E. + mgt. exper. $ 41,274 to $ 59,819
Charlotte	Civil Engineer III $ 34,683 to $ 48,804 Asst. City Engineer $ 42,158 to $ 61,129 City Engineer $ 51,244 to $ 74,304 Traffic Engineer II $ 34,683 to $ 48,804 Chief Traffic Engineer $ 40,151 to $ 58,219 Asst. Chief Engineer (utilities) $ 36,418 to $ 51,244 Chief Engineer (utilities) $ 40,151 to $ 58,219
Cumberland County	County Engineer $ 47,320 (salary set by the Board of County Commissioners) * all other engineering related positions are at the aide or technician level

Durham

Civil Engineer IV
min. $ 36,549.76 mid $ 42,974.10 max $ 55,603.86

Assistant City Engineer
min. $ 41,022.28 mid $ 48,302,54 max $ 62,540.14

City Engineer
min. $ 47,174.14 mid $ 55,603.86 max $ 72,083.44

Traffic Systems Engineer
min. $ 34,101.34 mid. $ 40,094.08 max $ 51,805.52

Transportation Systems Engineer
min. $ 34,101.34 mid $ 40,094.08 max $ 51,805.52

Durham County

County Engineer (eligible for registration as a professional engineer)
$ 44,017 to $ 65,342

Project Engineer
$ 25,567 to $ 37,956

Fayettesville
City Engineer $ 44,819 to $ 63,489
Traffic Engineer $ 42,685 to $ 60,471
Asst. City Engineer $ 35,125 to $ 49,942
Engineer II $ 27,521 to $ 39,130

Gaston County County Engineer $ 42,096 to $ 58,935

Greensboro

For jobs not requiring P.E. licensure, additional compensation not provided to licensed engineers above that which is allowable for engineers not licensed. The following jobs require P.E. licensure.

Municipal Engineer IV
$ 37,272 $ 48,288 $ 57,648

Assistant Director of Public Works - Engineering
$ 42,672 $ 55,296 $ 66,000

Public Works Director
$ 53,016 $ 70,980 $ 83,100

Goldsboro
Director of Public Utilities
$ 36,129.60 to $ 52,124.80
Assistant Director of Public Utilities/City Engineer $ 32,780.80 to $ 47,257.60
Civil Engineer II $ 29,744 to $ 42,848

High Point $ 37,500 to $ 55,000

New Hanover County

Director of Engineering & Facilities
$ 66,357
Civil Engineer $ 27,019 to $ 35,350
Construction Engineer $ 27,019 to $ 35,350
Utility Engineer $ 25,724 to $ 33,659
Asst. County Engineer $ 32,844 to $ 42,992
County Engineer $ 44,036 to $ 57,587

Orange County

Eligible for registration as a professional engineer
Range is from $ 44,204 to $ 70,287 a year
Current salary is $ 48,155 a year

Oxford $ 35,00 (with 25 years experience, P.E. license and land surveyor license

Pitt County $ 49,000 (P.E. + 5 years experience)

Raleigh City Engineer $ 43,946.63 to $ 69,880.04
Asst. City Engineer $ 37,962.75 to $ 60,365.01

Wake County Employs engineers, but none of the positions require licensure.

Wilmington City

Engineer I (no license)		
$ 23,992	$ 28,790	$ 33,589
Engineer II (3 to 5 years experience)		
$ 26,484	$ 33,105	$ 39,726
Engineer III (Supervision involved/ 5 to 7 years experience)		
$ 29,233	$ 36,541	$ 44,850

Winston-Salem

Civil Engineer			
$ 28,496	$ 34,798	$ 40,560	BSCE; 3 to 5 years
Senior Civil Engineer			
$ 30,971	$37,981	$ 44,554	BSCE; PE; 5 years
Assistant City Engineer			
$ 37,128	$ 45,427	$ 53,269	BSCE; PE; 5 years
City Engineer			
$ 44,387	$ 54,850	$ 64,376	BSCE; PE; 5 years plus
City Traffic Engineer			
$ 40,643	$ 49,795	$ 58,614	BSCE; PE; 5 years
Civil Engineering Supervisor			
$ 33,925	$ 41,683	$ 48,547	BSCE; PE; 5 years

TENNESSEE

Does your locality (local government) employ engineers as salaried employees on a regular full-time basis?

Locality	Yes	No
Bartlett	X (city engineer)	
Belle Meade		X
Berry Hill		X
Brentwood		X
Cheatham County		X (engineers used as needed on a contractual basis only
Collierville		X
Fairview		X
Germantown	X	
Gooduttsville		X
Knox County		X
Lakeland		X
Lousone		X
Memphis	X	
Millersville		X
Nashville (metro government)	X	
North Georgia		X
Soddy-Daisy		X
Rassville		X
Red City		X
Shelby County	X	
Springfield		X

TENNESSEE

Salary Range for the locality employing *licensed* engineers as salaried employees on regular full-time basis:

Bartlett $ 38,402.25 to $ 49,012.08

Germantown

	Monthly		
Drafting Technician	$ 1,425	$ 1,682	$ 1932
Mapping Technician			
Construction Inspector			
Senior Drafting Technician	$ 1,532	$ 1,823	$ 2,113
Lead Drafting Technician	$ 1,645	$ 1,973	$ 2,304
Senior Construction Inspector			
Code Enforcement Officer	$ 1,755	$ 2,121	$ 2,490
Chief Construction Inspector	$ 1,822	$ 2,297	$ 2,710
Engineer	$ 2,154	$ 2,671	$ 3,188
City Engineer	$ 2,317	$ 2,897	$ 3,476
Assistant to Director of Development			
Director of Development	$ 3,030	$ 3,911	$ 4,789

Memphis

	Min.	Midpoint	Max
Grade 15	$ 33,030.40	$ 41,288	$ 49,546.60
Grade 14	$ 30,030	$ 37,537.50	$ 45,045

Nashville (metro government)

Engineer	$ 31,596 to $ 42,288	BS-Engineering/PE license
Sr. Engineer	$ 35,508 to $ 50,364	BS-Engineering/4 yrs. experience PE license
Chief Engineer	$ 37,632 to $ 53,388	BS-Engineering/8 yrs. experience 2 in supervision PE license
Engineering Director	$ 39, 888 to $ 56,592	BS-Engineering/8 yrs. experience 4 in supervision or admin. PE license

Shelby County

Engineer Senior (licensed as a registered professional engineer)
(5 years experience; 2 supervisory)

Entry	1 year	3 years	4 years
$ 2,628	$ 2,750	$ 2,901	$ 2,973

Engineer A

$ 2,328	$ 2,447	$ 2,667

Engineer B

Entry	Mid	Max
$ 1,896	$ 2,090	$ 2,363

KENTUCKY

Does your locality (local government) employ engineers as salaried employees on a regular full-time basis?

Locality	Yes	No
Arlington		X
Auburn	X (contract)	
Augusta		X
Bellevue		X
Bromley	X (by contract, as needed)	
Burkesville		X
Burnside		X
Carrollton		X
Central City		X
Columbia		X
Concord		X
Crestview		X
Dry Ridge		X
Edgewood		X
Eubank		X
Hickman County		X
Kenton County		X
Louisville City	X	
Ludlow		X
Mercer		X
Partsville		X
Prestonsburg		X
Scottville		X
Somerset		X
Walton		X
Wheatcroft		X
Wilder		X

Salary Range for the locality employing an engineer as a salaried employee on a regular full-time basis:

Louisville City			
Engineer I	$ 24,122.66	$ 26,618.56	$ 27,939.31
Engineer II	$ 27, 939.31	$ 30,801.99	$ 32,269.93
Engineer III	$ 32,269.93	$ 35,646.06	# 37,358.61
Engineer IV	$ 37,358.62	$ 41,223.97	$ 43,230.11

#

Engineering Degrees Awarded and Starting Salaries

Nationally, over the Last Decade, B.S. only

Academic Year	Number of Engrg. B.S. Degrees
1979-80	58,117
1980-81	62,935
1981-82	66,990
1982-83	72,471
1983-84	76,931
1984-85	77,892
1985-86	78,178
1986-87	75,735
1987-88	71,386
1988-89	Not yet available

Within the Commonwealth, 1987-88

	Number of Degrees		
	B.S.	M.S.	Ph.D.
George Mason University	172	111	0
Old Dominion University	204	43	7
U Virginia	304	178	47
Virginia Military Inst	118	0	0
Virginia Poly Institute	1041	344	83
Washington & Lee Univ	13	0	0
Total	1852	676	137

By curriculum, 1987-88, B.S. only

Discipline	B.S.
Aerospace	2,949
Chemical	4,082
Civil	7,714
Computer	4,275
Electrical	24,367
Engineering Science	1,378
General Engineering	1,085
Industrial	4,584
Mechanical	15,610
Other Curricula	5,342
All Disciplines	71,386

Average Starting Salaries, Nationally, 1988-89

Aerospace	$29,424
Chemical	32,949
Civil	26,735
Electrical	30,661
Industrial	29,812
Mechanical	30,539

RESOLUTION ON THE GOVERNMENTAL EXEMPTION
IN THE VIRGINIA ENGINEERING LICENSE LAW

WHEREAS, Virginia law requires that engineers must be licensed by the state if they hold supervisory positions on projects such as public works which affect the public health and safety, and

WHEREAS, the steadily increasing complexity of modern technology and its growing impact on civilization make it extremely difficult for anyone today to gain the knowledge needed to take engineering responsibilities unless he or she has an engineering degree, and

WHEREAS, the state engineering license procedures evaluate engineering experience as well as college education and do offer a path to licensure for those whose extra experience actually compensates for the lack of an engineering degree, and

WHEREAS, the current law still includes a fifty-year-old exemption for all engineers employed by state or local governments, and

WHEREAS, the Virginia General Assembly has created a legislative subcommittee to consider repeal of this exemption,

NOW THEREFORE BE IT RESOLVED that the Deans of Engineering at the five Virginia engineering colleges believe that projects involving public health, safety and welfare should be conducted under the responsible charge of engineers, who have demonstrated their qualifications through the prescribed state licensing process, which takes into account education, experience and written examinations.

August 11, 1989

Paul E. Torgersen, P.E.
Dean, College of Engineering
Virginia Polytechnic
Institute & State University

Edgar A. Starke, Jr.
Dean, School of Engineering &
Applied Science
University of Virginia

Andrew P. Sage, P.E.
Dean, School of Information
Technology & Engineering
George Mason University

Ernest J. Cross, Jr., P.E.
Dean, School of Engineering
Old Dominion University

Donald K. Jamison, P.E.
Director of Engineering
Virginia Military Institute

Prepared by Ellen P. Ray
Intern, Division of Legislative Services
June 1989

Licensing Exemptions for Architects, Engineers and Landscape Architects Fifty-State Survey

Alabama

Architects

§34-2-32:
(d) registered architects performing engineering services and registered engineers performing architectural services when work is incidental to their practices.

Engineers

§34-11-14:
(3) employees of the U.S. government practicing in relation to their work.
(4) employees of any transportation company or public utility subject to regulation by the Alabama public service commission, the federal communications commission, the federal power commission or like regulatory agency, including its parents, affiliates or subsidiaries; or by the officers and employees of any such transportation company or public utility including its parents, affiliates or subsidiaries; provided that the engineer or land surveyor's compensation is not based in whole or in part on a fee.
(5) employees of the Alabama state highway department in classified service under the state of Alabama personnel board (merit system).

Landscape Architecture

§34-17-27:
(2) registered architects when work is incidental to their practice.
(3) registered engineers when work is incidental to their practice.
(4) registered professional land surveyors when work is incidental to their practice.
(5) employees of the U.S. government practicing in relation to their work.
(6) planning as customarily done by regional or urban planners.

Alaska

Architects Engineers and Land Surveyors

§08.48.331:
(3) employees of the U.S. government practicing in relation to their work.
(4) employees of the state practicing as required by that person's official capacity if registration is not part of the job description or by AS 38.95.150 or 38.95.160.
(6) services ordinarily performed by locomotive, stationary and marine engine men, power plant operators, and manufacturers who supervise the operation of or operate machinery or equipment, or supervise construction within their own plant which affect only the property or interest of the manufacturer, unless the public health or safety is involved.

Arizona

Architects, Assayers, Engineers, Geologists and Surveyors

§32-144:
A.
1. employees of the U.S. government practicing in relation to their work.
6. persons designing a water or wastewater treatment plant, or extensions, additions, modifications or revisions, or extensions to water distribution or collection systems, if the total cost does not exceed $12,500.
B. work done by any communications common carrier or its affiliates or any public service corporation or manufacturing industry or by full-time employees of any of them, if such work is in connection with and incidental to the products, systems or non-engineering services of such businesses, and if the engineering service is not offered directly to the public.

Landscape Architects

There are no specific licensing procedures listed.

Arkansas

Architects

17-14-302:
(a)(1) registered engineers when work is incidental to their practices.
(a)(3) employees of the U.S. government practicing in relation to their work.
(b)(1)(A) public school districts exempted from the provisions of this chapter; or
(b)(1)(B) public school districts embracing a city with a population in excess of thirty thousand, which maintain a full-time superintendent of buildings with engineering and architectural experience.
(b)(2)(B) persons constructing new structures that will not exceed in cost the sum of seventy-five thousand dollars.
(b)(2)(c) any public school district where the cost of the building, alteration, or structure does not exceed the sum of fifty thousand dollars.

Engineers

17-27-301:
(4) employees of the U.S. government practicing in relation to their work.

Landscape Architects

No specific exemptions section although §17-29-304 provides for reciprocity: A person who has passed the Uniform National Examination and is registered in another state may certify for registration by oral examination.

California

Architects

§5537.1:
structural engineers when work is incidental to their practices.
§5537.4:
registered engineers when work is incidental to their practices.
§5537.5:
civil engineers when work is incidental to their practices.
§5537.6:
landscape architects when work is incidental to their practices.
§5537.7:
land surveyors when work is incidental to their practices.

Engineers

§6704:
employees of the communication industry.

Landscape Architects

§5644:
registered architects and engineers when work is incidental to their practices.

Colorado

Architects

12-4-112:
(2) nothing in this article shall prevent, prohibit, or limit any municipality or county, home rule or otherwise, from adopting such building codes as may, in the reasonable exercise of the police power of said government unit, be necessary for the protection of the inhabitants of said municipality or county.
(4) employees of the U.S. government practicing in relation to their work.

Engineers

12-25-103:
(g) person who performs engineering services solely for a county, city and county, or municipality.
(i) employees of the U.S. government practicing in relation to their work.

Landscape Architects

There are no specific licensing procedures listed.

Connecticut

Architects

§20-298:
(a) licensed engineers when work is incidental to their practice.
(f) employees of any public utility corporation whose operations are under the jurisdiction of the department of public utility control.
(g) employees of the U.S. government practicing in relation to their work.

Engineers

§20-309:
(b) any corporation whose operations are under the jurisdiction of the department of public utility control and the officers and employees of any such corporation or any contracting corporation affiliated with any such corporation.
(c) any manufacturing or scientific research and development corporation and the officers and employees of any such corporation while engaged in the performance of their employment by such corporation, provided the engineering work is incidental to the research and development or manufacturing activities of such corporation.
(e) registered architects when work is incidental to their practice.

Landscape Architects

§20-376:
registered architects, engineers and land surveyors.

Delaware

Architects

24§301-316:
No exceptions except reciprocity listed in the licensing procedures.

Engineers

24§2802-2828:
No exceptions listed in the licensing procedures.

Landscape Architects

There are no specific licensing procedures listed.

District of Columbia

Architects

§2-226:
(2) landscape architects, landscape engineers, city and regional planners from the preparation of drawings for, and the supervision of, planting, grading, walks, paving, and such minor structural features as fences, steps, walls, pools, and garden structures, normally included as a part of their work, where such features could not constitute a possible menace to life, health, or public welfare.
(3) registered engineers when work is incidental to their practice.

Engineers

§2-2310:
(5) the practice of engineering as a consultant, officer, or employee of the government of the U.S. or the government of the District of Columbia while engaged solely in such practice for said government.

(7) the practice of engineering exclusively as an officer or employee of a public utility corporation by rendering to such corporation such service in connection with its facilities and property which are subject to supervision with respect to safety and security thereof by the Public Service Commission of the District of Columbia and so long as such person is thus actually and exclusively employed and no longer: Provided, however, that each such public utility corporation shall employ at least 1 registered professional engineer who shall be in responsible charge of such engineering work.
(8) registered architects when work is incidental to their practice.
(11) operation or maintenance of boilers, machinery, or equipment when the operators are duly licensed under the provisions of Chapter 24 of this Title.

Landscape Architects

There are no specific licensing procedures listed.

Florida

Architects

§481.229:
(3) registered engineers when work is incidental to their practice.

Engineers

§471.003:
(b) 1. persons acting as a public officer employed by any state, county, municipal, or other governmental unit of this state when working on any project the total estimated cost of which is $10, 000 or less.
2. employees of any state, county, municipal, or other governmental unit of this state who are the subordinates of a person in responsible charge registered under §. 471.001-471.039, to the extent that the supervision meets standards adopted by rule of the board.
(f) certified full-time faculty member teaching the principles and methods of engineering design in any college or university located in the state for a period of 3 years from the date of employment.
(h) registered land surveyors when work is incidental to their practice.

Landscape Architects

§481.329:
(6) persons who perform landscape architectural services not for compensation, or in their capacity as employees of municipal or county governments, shall not be required to be licensed pursuant to this part. However, persons who are hired under the title "landscape architect" by any state, county, municipality, or other governmental unit of this state must be licensed. Nothing herein shall preclude a county or municipal employee from performing the functions of this part for his governmental employer under a different title.
(7) preparation of comprehensive plans or the practice of comprehensive urban or rural planning at the local, regional, or state level by persons, corporations, partnerships, or associations who are not licensed or registered as landscape architects.

Georgia

Architects

43-4-14:
registered engineers when work is incidental to their practices.

Engineers

43-15-29:
(b)(2) employees of the U.S. government practicing in relation to their work.
(3) elective officers of the political subdivision of the state while in the practice of professional engineering or land surveying in the performance of their official duties.
(4) employees of the Department of Transportation, except as required by Title 46, while engaged within this state in the practice of professional engineering or land surveying for such department.
(d) professional engineering and land surveying with respect to utility facilities by any public utility subject to regulation by the Public Service Commission, or like regulatory agencies, including its parents, affiliates, or subsidiaries; or by the officers and full-time permanent employees of any such public utility, including its parents, affiliates, or subsidiaries, except where such practice involves property lines of adjoining property owners, provided that this exception does not extend to any professional engineer or land surveyor whose compensation is based in whole or in part on a fee or to any engineering services performed by the above-referenced utility companies not directly connected with work on their facilities.

Landscape Architects

43-23-17:
(1) landscape contractor, including a residential landscape contractor, within his duties as such.
(3) persons qualified by training or experience or by both whose services are offered solely as a municipality, regional, or urban planner.
(4) person employed by a state agency, county, or municipality who engages in the business of or acts in the capacity of a landscape architect, insofar as such acts are performed in the course of employment with the respective governmental entity on lands owned by the jurisdiction by which employed.

Hawaii

Architects, Engineers, Surveyors

§464-3:
(1) employees of the U.S. government practicing in relation to their duties.
(2) employees of the State or any political subdivision thereof on May 2, 1923, only until the expiration of the terms of office or employment of such persons.

Landscape Architects

There are no specific licensing procedures listed.

Idaho

Architects

54-309:
2d: rendering of any architectural service required in the erection, enlargement, alteration, or repair of any building which does not involve the public health or safety.

Engineers

54-1223:
(4) individuals teaching upper division engineering subjects that are classified as engineering design for any college or university for a period of three years from the date of employment with any college or university.
(6) individuals doing survey work for themselves or through firms, partnerships or corporations with respect to the location, amendment, or relocation of a mining claim.

Landscape Architects

There are no specific licensing procedures listed.

Illinois

Architects

111§1201-1232:
There are no unusual exemptions listed in the licensing procedures.

Engineers

111 ¶ 5026:
(Deferred Repeal)
1. practice of structural engineering as defined in the "Illinois Structural Engineering Act."
2. practice of architecture as defined in the "Illinois Architectural Act."
7. employees of the U.S. government practicing in relation to their work.
10. services performed by employees of a business organization engaged in utility, industrial or manufacturing operations, or by employees of laboratory research affiliates of such business organization which are rendered in connection with the fabrication or production, sale, and installation of products, systems, or non-engineering services of the business organization or its affiliates.
11. Inspection and service work done by employees of the State of Illinois, any political subdivision thereof or any municipality therein, and of insurance rating bureaus, insurance service bureaus, insurance companies or insurance agents.
12. persons ordinarily designated as chief engineer of plant operation, chief operating engineer, locomotive, stationary, marine, power plant or hoisting and portable engineers, or electrical maintenance or service engineers, or engineers employed in connection with street lighting, traffic control signals, police and fire alarm systems, waterworks, steam, electric, and sewage treatment and disposal plants, or the services ordinarily performed by any worker regularly employed as a locomotive,

stationary, marine, power plant, or hoisting and portable engineer or electrical maintenance or service engineer for any corporation, contractor or employer.
15. planning and designing of work incidental to plumbing and piping contracts.

§5123:

As of January 1, 1970, it was made unlawful for the State or local governments to engage in the construction of any public work without the supervision of a registered engineer, except that county or road district construction work can be done by or under the guidance of the county superintendent of highways of the county in which the work is being done.

Landscape Architects

There are no specific licensing procedures listed.

Indiana

Architects

25-4-1-11:
registered engineers when work is incidental to their practices.

25-4-1-29:
specifically requires that all state and local construction be under the supervision of a registered architect or engineer, except those exempted from the rules of the fire prevention and building safety commission.

Engineers

25-31-1-20:
(c) employees of the U.S. government practicing in relation to their work.

Landscape Architects

25-4-2-1:
(c)
(2) registered architects and engineers when work is incidental to their practices.
(5) employees of the U.S. government practicing in relation to their work.
(6) planning as is customarily done by regional or urban planners.

Iowa

Architects

118.18:
6. churches and accessory buildings, whether attached or separate, not more than two stories in height and not exceeding 2, 000 square feet in gross floor area.

Engineers

114.26:
employees of the U.S. government practicing in relation to their work.

Landscape Architects

118A.20:
1&2 registered architects and engineers.
5. business conducted by any planner, agriculturist, soil conservationist, horticulturist, tree expert, forester, nurseryman or landscape nurseryman, gardener, landscape gardener, landscape contractor, garden or lawn caretaker, tiling contractor, grader or cultivator of land, golf course designer or contractor, or similar business, except if the title of "landscape architect" is used.

Kansas

Architects and Landscape Architects

74-7031:
(a) practice of persons engaging in the publication of books or pamphlets illustrating architectural designs.
(d) work involving matters of rates, rating and loss prevention by employees of insurance rating organizations and insurance companies and agencies.
(f) employees of the U.S. government practicing in relation to their work.

Engineers

74-7033:
(d) licensed landscape architects when work is incidental to their practice.
(e) employees of the U.S. government practicing in relation to their work.

Landscape Architects

There are no specific licensing procedures listed.

Kentucky

Architects

323.030:
(2) employees of the U.S. government practicing in relation to their work.
(3) licensed engineers when work is incidental to their practices.

Engineers

§322.030:
(2) employees of the U.S. government practicing in relation to their work.
(4) engineer or land surveyor engaged solely as an officer or employee of a privately owned public utility or of a corporation engaged in interstate commerce as defined in the Interstate Commerce Act.
(5) licensed architects when work is incidental to their practices.

Landscape Architects

§323A.030:
(1) &(2) licensed engineers or architects when work is incidental to their practices.
(6) golf course design.
(7) practice of planning as customarily performed by community, regional or state planners.

Louisiana

Architects

§37:155:
(1) employees of the U.S. government practicing in relation to their work.
(2) licensed civil engineers when work is incidental to their practices.
(4)(c) buildings or projects, other than single family residences, public or private, or any type that are constructed at a cost, not including site, or not to exceed $150,000.
(5) Routine maintenance projects costing not more than $80,000 on any public building or ground.

Engineers

§37:702:
(3) employees of the U.S. government practicing in relation to their work.
(4) cooperatives under the rural electrification administration; engineering performed by cooperatives under the Rural Electrification Acts.
(5) practice of engineering exclusively as an officer or employee of a public utility corporation authorized to do and doing business in this state, by rendering to such corporation such service in connection with its facilities and property which are subject to regulation with respect to safety and security thereof by the Public Service Commission of the state, or other duly authorized utility regulatory body, and so long as such person is thus actually and exclusively employed, provided this does not apply to the practice of civil engineering or land surveying.

Landscape Architects

§3:3816:
persons performing gardening activities for noncommercial establishments.

Maine

Architects

32 §226:
1.
B. marine or naval architects acting within the scope of their profession.
C. employees of the U.S. government practicing in relation to their work.
D. persons, in the regular employment of a public utility, carrying out work incidental to their employment.

E. registered engineers when work is incidental to their practices.

Engineers

32 §1255:

4. employees of the U.S. government practicing in relation to their work.
6. persons who have been licensed by the Department of Human Services pursuant to Title 22, section 42, subsection 3-A, solely for the purpose of work relating to subsurface sewage disposal systems.

Landscape Architects

There are no specific licensing procedures listed.

Maryland

Architects

Art. 56, §469:
(1) &(2) registered engineers or landscape architects when work is incidental to their practices.
(3) Real estate brokers, dealers and agents in making of appraisals of properties and the selection of sites.

Engineers

Art. 75 1/2, §19:
(3) employees of the U.S. government practicing in relation to their work.
(4) regular employees of public utilities, by rendering to the company engineering service in connection with its facilities which are subject to regulation, supervision and control, in order to safeguard life, health and property by a state or federal regulatory commission having jurisdiction so long as such person is thus actually and exclusively employed.

Landscape Architects

Art. 56, §279:
(b),(c) &(d) registered architects, engineers and land surveyors when work is incidental to their practices.
(e) employees of the U.S. government practicing in relation to their work.
(f) planning as customarily done by regional or urban planners.

Massachusetts

Architects

112 §60L:
1.(a) any building containing less than 35, 000 cubic feet of enclosed space.
6. employees of the U.S. government practicing in relation to their work.
7. practice of landscape architects, city planners and regional planners insofar as their work consists in consultations and preparation of master plans of parks, land areas, sites, organized groups of buildings, or communities, or the preparation of detailed

plans and the supervision of planting, grading, paving, and such structural features as fences, steps, walls, pools, garden structures, and minor utilities normally included as a part of their work.

Engineers

112 §81R:
(e) employees of the U.S. government practicing in relation to their work.
(h) practice of landscape architects, city planners and regional planners insofar as their work consists in consultations and preparation of master plans of parks, land areas, sites, organized groups of buildings, or communities, or the preparation of detailed plans and the supervision of planting, grading, paving, and such structural features as fences, steps, walls, pools, garden structures, and minor utilities normally included as a part of their work.
(j) person employed by an insurance company or by its agents, its affiliates or subsidiaries, or person performing services for insurance inspection and actuarial bureaus, when work is incidental to the operation of an insurance company.
(l) person, firm or corporation subject to the jurisdiction of the department of public utilities which work and services are performed as part of their employment.
(m) employees of the Metropolitan Transit Authority whose work and services are performed as part of their employment.

Landscape Architects

112§98-107:
There are no exemptions listed in the licensing procedures.

Michigan

Architects and Engineers

338.569:
(a) employees of railroads or other interstate corporations whose employment and practice is confined to the property of such corporation.
(b) designer of manufactured products for which the manufacturer thereof assumes responsibility.

Landscape Architects

There are no specific licensing procedures listed.

Minnesota

Architects and Engineers

§326.13:
(3) employees of the U.S. government practicing in relation to their work.

Landscape Architects

§326.02:
Subd. 4a.: registered architects and engineers when work is incidental to their practices.

Mississippi

Architects and Engineers

§73-1:39:
(1) employees of the U.S. Government practicing in relation to their work.
(2) persons, firms, or corporations that prepare plans and specifications for the erection of any buildings owned by the state of Mississippi, or any of its political subdivisions, containing less than 10,000 square feet of ground floor area, and not exceeding two stories in height.
(4) licensed engineers when work is incidental to their practices.
(5) professional landscape architects who are engaged in the preparation of drawings for and the supervision of planting, grading, walks, paving and appurtenances related to such work.
(6) city and regional planners or professional planners while advising, consulting, administering or performing professional work or planning services.

Landscape Architects

§73-2-19:
b) employees of the U.S. government practicing in relation to their work.
(c) practice of planning as customarily done by regional and urban planners.
(f) registered architects and engineers for such planting which may be incidental to their work.
(g) work or practice of a regular employee of a public service company or public utility, by rendering to such company landscape architectural service in connection with its facilities which are subject to regulation, supervision and control in order to safeguard life, health and property by the Public Service Commission of this state shall be exempt so long as such person is thus actually and exclusively employed.

Missouri

Architects

§327.101:
(3) registered engineers when work is incidental to their practices.
(4) person who is a landscape architect, city planner or regional planner who performs work consisting only of consultations concerning and preparation of master plans for parks, land areas or communities, or the preparation of plans for and the supervision of the planting and grading or the construction of walks and paving for parks or land areas and such other minor structural features as fences, steps, walls, small decorative pools and other construction not involving structural design or stability and which is usually and customarily included within the area of their work.

Engineers

§327.191:
(4) registered architects when work is incidental to their practices.

Landscape Architects

There are no specific licensing procedures listed.

Montana

Architects

37-65-103:
(4)
(a) employees of the U.S. government practicing in relation to their work.
(b) registered engineers when work is incidental to their practices.

Engineers

37-67-103:
(4) licensed architects when work is incidental to their practice.

Landscape Architects

37-66-105:
(3) licensed architects and engineers.

Nebraska

Architects and Engineers

§81-853:
(1)(d) employees of the U.S. government practicing in relation to their work.

Landscape Architects

§81-8, 206:
(3) registered architects and engineers.

Nevada

Architects

623.330:
1(b) employees of the U.S. government practicing in relation to their work.
1(c) registered engineers.

Engineers

625.480:
2. employees of the U.S. government practicing in relation to their work.

Landscape Architects

623A.070:
2. registered architects.
4. registered engineers.
5. persons who design irrigation systems if the irrigation design incorporates only nonesthetic irrigation design.
6. persons who manufacture irrigation equipment and provide instructions pertaining to the mechanical erection and installation of the equipment but do not install the equipment.

New Hampshire

Architects

310-A:27:
III. employees of the U.S. government practicing in relation to their work.

Engineers

310-A:74:
III. employees of the U.S. government practicing in relation to their work.

Landscape Architects

310-A:79:
III. employees of the U.S. government practicing in relation to their work.

New Jersey

Architects

45:3-9:
registered engineers when work is incidental to their practice.

Engineers

45:8-40:
(4) employees of the U.S. government practicing in relation to their work.

45:8-44.5:
This act shall not apply to lands traversed by an operating railroad.

Landscape Architects

There are no specific licensing procedures listed.

New Mexico

Architects

61-15-8:
A(2) employees of the U.S. government practicing in relation to their work.

Engineers

61-23-22:
B. employees of the U.S. government practicing in relation to their work.

Landscape Architects

61-24B-5:
B. employees of the U.S. government practicing in relation to their work.
C. registered architects and engineers when work is incidental to their practices.

New York

Architects

§7306:
e. licensed engineers when work is incidental to their practices.
f. persons employed as a junior or assistant architect by the City of New York in a position the title of which was approved and in use as of July first, nineteen hundred seventy-one, provided they act under the general direction of a licensed architect.

Engineers

§7208:
c. employees of a county or town, in the construction, improvement or maintenance of a county road or town highway, or employees of a county, city, town or village, in the construction, improvement or maintenance of any public work wherein the contemplated expenditure for the completed project does not exceed five thousand dollars.
d. legally authorized persons operating or maintaining a steam, power, or refrigeration plant.

Landscape Architects

§7326:
e. persons employed as a junior or assistant landscape architect by the City of New York in a position the title of which was approved and in use as of July first, nineteen hundred seventy-one, provided such persons act under the general supervision of a licensed landscape architect.
f. licensed architects and engineers.

North Carolina

Architects

§33A-13:
(a) registered engineers when work is incidental to their practices.

Engineers

§89C-25:
(6) employees of the U.S. government practicing in relation to their work.
(7) service work done by employees of the state, any political subdivision thereof, or any municipality therein including construction, installation, servicing, maintenance by regular full-time employees of streets, street lighting, traffic-control signals, police and fire alarm systems, waterworks, steam, electric and sewage treatment and disposal plants; the services of superintendents, inspectors or foremen regularly employed by the state or any political subdivision thereof, or municipal corporation therein; provided that the internal engineering or surveying activity is not a holding out to or an offer to the public of engineering or any service thereof.
(8) performance of internal engineering or survey work by a manufacturing or communications common carrier company, or by a research and development company...

Landscape Architects

§89A-1 through 8:
There are no exemptions listed in the licensing procedures.

North Dakota

Architects

43-03-02:
3. persons preparing for a school board plans and specifications for, or supervising the erection or alteration of, one- or two-room school buildings costing not to exceed five thousand dollars.

Engineers

43-19.1-29:
3. persons practicing engineering or surveying for a county whose appointment as county engineer or county highway superintendent was in effect on January 1, 1967.

Landscape Architects

There are no specific licensing procedures listed.

Ohio

Architects

4703-1 through 10:
There are no exemptions listed in the licensing procedures.

Engineers

4733-1 through 27:
There are no exemptions listed in the licensing procedures.

Landscape Architects

4703:1:
There are no exemptions listed in the licensing procedures.

Oklahoma

Architects

§45.3a:
There are no exemptions listed in the licensing procedures.

Engineers

§475.22:
There are no exemptions listed in the licensing procedures.

Landscape Architects

§46.28:
5. regional planners or urban planners.

Oregon

Architects

671.020:
There are no exemptions listed in the licensing procedures.

Engineers

672.060:
(2) registered sanitarian practicing environmental sanitation.
(9)(a) employees of the U.S. government practicing in relation to their work.

Landscape Architects

671.315:
(2)(a)&(b) registered architects and engineers.

Pennsylvania

Architects

63§34.1-19:
There are no exemptions listed in the licensing procedures.

Engineers

63§148-158:
There are no exemptions listed in the licensing procedures.

Landscape Architects

63§901-911:
There are no exemptions listed in the licensing procedures.

Rhode Island

Architects

5-1-14:
(2) registered engineers when work is incidental to their practices.

Engineers

5-8-21:
(a) registered architects when work is incidental to their practices.
(e) employees of the U.S. government practicing in relation to their work.
(f) railroad, telephone, telegraph and other public utility companies, and their officers and employees while engaged in the work of those companies in this state, provided the practice is carried on under the supervision of a registered engineer.

(g) research or development corporations while engaged in research or development for themselves.

Landscape Architects

5-51-12
-employees of the U.S. government practicing in relation to their work.
-state, city, town or regional planners.
-professional planning by private consultants or employees of public agencies.
-registered architects and engineers when work is incidental to their practices.

South Carolina

Architects

§40-3-160:
There are no exemptions listed in the licensing procedures.

Engineers

§40-21-410:
(4) employees of the U.S. government practicing in relation to their work.
(5) regular employees of a public utility, a telephone utility, or an electrical utility, by rendering to the employing company engineering service in connection with its facilities which are subject to regulation, supervision, and control in order to safeguard life, health, and property by the Public Service Commission of this State, so long as the person is actually and exclusively employed.
(6) regular employees of an electric cooperative when rendering to the employing cooperative engineering service in connection with its facilities which are subject regulations and inspections of the Rural Electric Administration, so long as the person is actually and exclusively employed.
(7) regular employees of a state authority which is licensed by and subject to the safety regulations of the Federal Energy Regulatory Commission, and which sells and distributes electric power to consumers, so long as the person is actually and exclusively employed.

Landscape Architects

§51-15-120:
municipal park employees in cities with a population of between thirty-six thousand and fifty-five thousand.

South Dakota

Architects and Engineers

36-18-7:
(1) persons rendering services for the U.S. armed forces.
(2) employees of the U.S. government practicing in relation to their work.
(3) person engaged in the practice of professional engineering, architecture, or land surveying in the employ of the state and any of its political subdivisions but

only while rendering service exclusively to such employer.
(5) person rendering services to a firm, corporation, or public utility when the work is only to affect the private property of the employer.

Landscape Architects

There are no specific licensing procedures listed.

Tennessee

Architects, Engineers and Landscape Architects

62-2-102:
any designs, plans or construction which does not involve the public safety or health, as long as the person does not designate himself as an architect, engineer or landscape architect.

Texas

Architects and Landscape Architects

Art. 249a Sec. 14:
1. employees of the U.S. government practicing in relation to their work.

Engineers

Art. 3271a Sec. 20:
(d) employees of the U.S. government practicing in relation to their work.
(h) regular full time employee of a privately owned public utility or cooperative utility and/or affiliates who is engaged solely and exclusively in performing services for such utility and/or its affiliates; provided, that such employee does not have the final authority for the approval of, and the ultimate responsibility of engineering designs, plans or specifications to be incorporated into fixed works, systems, or facilities on the property of others or which are to be made available to the general public.
(i) qualified scientists engaged in scientific research and investigation of the physical or natural sciences, including the usual work and activities of meteorologists, seismologists, geologists, chemists, geochemists, physicists and geophysicists.
(j) person giving testimony or preparing exhibits or documents for the sole purpose of being placed in evidence before any administrative or judicial tribunal of competent jurisdiction.
(k) agricultural work being performed in carrying out soil and water conservation practices.
(l) operating telephone companies and/or affiliates or their employees in respect to any plans, designs, specifications, or services which relate strictly to the science and art of telephony.

Utah

Architects

58-3-10:
There are no exemptions listed in the licensing procedures.

Engineers

58-22-10:
(5) employees of the U.S. practicing in relation to their work.
(7) work done by any communication company, utility, railroad, or any affiliate or employee of any of them, if the work is done solely in connection with the products or systems of those entities and not offered directly to the public.

Landscape Architects

58-53-8:
There are no exemptions listed in the licensing procedures.

Vermont

Architects

T.26 §124:
(a)(1) licensed engineers.

Engineers

T.26 §1163:
(a)(1) employees of the U.S. government practicing in relation to their work.
(2) full-time employees of the state.
(3) full-time employees of a municipality.
(4) full-time employees of the Vermont association of conservation districts while performing work for the on-site sewage disposal program.
(5) employees of a corporation engaged in interstate commerce as defined in the act of Congress entitled "An Act to Regulate Commerce" approved February 4, 1887, as amended.
(c)(4) construction of public works by a municipality.

Landscape Architects

There are no specific licensing procedures listed.

Washington

Architects

Exemption section was repealed in 1985.

Engineers

18.43.130:
(6) employees of the U.S. government practicing in relation to their work.

Landscape Architects

No section of exemptions is listed. § 18.96.020 requires registration of all persons who use or advertise the title landscape architect, landscape architecture, or landscape architectural.

West Virginia

Architects

§30-12-10:
There are no exemptions listed in the licensing procedures.

Engineers

§30-13-8:
(3) employees of the U.S. government practicing in relation to their work.
(4) regular full-time employees of any investor-owned public utility, its affiliates or associated companies, while engaged solely in performing services which are not offered directly to the public, and which are performed in connection with or incidental to the products, systems or services or such utility.

Landscape Architects

§30-22-10:
-registered architects and engineers when work is incidental to their practices.
-community, city or other municipal, urban and regional planners and urban designers.

Wisconsin

Architects and Engineers

443.14:
(1) registered engineers practicing architecture when work is incidental to their practices and vice versa.
(2) employees of the U.S. government practicing in relation to their work.
(3) regular employees of a public service company acting in its behalf where the professional engineering services rendered are in connection with its facilities which are subject to regulation, supervision and control by a commission of this state or the federal government.
(5) persons engaged in the manufacture of a product or unit, including laboratory research affiliates of the person, where the services performed are the design, assembly, manufacture, sale or installation of that product or unit, "Product or unit" does not include any building.

Landscape Architects

There are no specific licensing procedures listed.

Wyoming

Architects

§34-4-111:
-registered engineers provided they do not use the designation of the word "architect."
-employees of the U.S. government practicing in relation to their work.
-agents or employees of any public utility or common carrier engaged in interstate commerce within this state.

§33-4-112:
person who makes plans and specifications for buildings or manages or administrates the construction, erection, enlargement or alteration of a building provided: such person does not use the designation of the word "architect" or any term derived therefrom.

Engineers

§33-29-136:
(1) employees of the U.S. government practicing in relation to their work, except when filing water rights or water right petitions with the state as provided in title 41 of the statutes.

Landscape Architects

There are no specific licensing procedures listed.

1990 SESSION

LD1122511

HOUSE BILL NO. 302

Offered January 18, 1990

A BILL to amend and reenact §§ 54.1-400, 54.1-401, 54.1-406, and 54.1-410 of the Code of Virginia and to amend the Code of Virginia by adding a section numbered 54.1-402.1, relating to the regulation of architects, engineers, surveyors, and landscape architects.

Patrons–Mayer, Smith, Callahan, Woods, Van Landingham, Plum, Cunningham, J.W., Marks, Robinson, Hall, Orrock, Byrne, Giesen, Purkey, Christian, Dillard, Almand, Putney, Cooper, Keating, Martin, Hamilton, Reid, Andrews, Copeland, Grayson, Cohen, Diamonstein, Jones, J.C., Kennedy, Tata, Brickley, Phillips and Harris, R.E.; Senators: Nolen, Saslaw, Waddell, Calhoun, Lambert, Miller, E.F., Russell, Miller, K.G., DuVal, Walker and Gartlan

Referred to the Committee on Roads and Internal Navigation

Be it enacted by the General Assembly of Virginia:

1. That §§ 54.1-400, 54.1-401, 54.1-406, and 54.1-410 of the Code of Virginia are amended and reenacted and the Code of Virginia is amended by adding a section numbered 54.1-402.1 as follows:

§ 54.1-400. Definitions.–As used in this chapter unless the context requires a different meaning:

"Architect" means a person who, by reason of his knowledge of the mathematical and physical sciences, and the principles of architecture and architectural design, acquired by professional education, practical experience, or both, is qualified to engage in the practice of architecture and whose competence has been attested by the Board through licensure a an architect.

The "practice of architecture" means any service wherein the principles and methods of architecture are applied, such as consultation, investigation, evaluation, planning and design, and includes the responsible administration of construction contracts, in connection with any private or public buildings, structures or projects, or the related equipment or accessories.

"Board" means the Board for Architects, Professional Engineers, Land Surveyors and Landscape Architects.

"Certified landscape architect" means a person who, by reason of his special knowledge of natural, physical and mathematical sciences, and the principles and methodology of landscape architecture and landscape architectural design acquired by professional education, practical experience, or both, is qualified to engage in the practice of landscape architecture and whose competence has been attested by the Board through certification as a landscape architect.

The "practice of landscape architecture" by a certified landscape architect means any service wherein the principles and methodology of landscape architecture are applied in consultation, evaluation, planning (including the preparation and filing of sketches, drawings, plans and specifications) and responsible supervision or administration of contracts relative to projects principally directed at the functional and aesthetic use of land.

"Improvements to real property" means any valuable addition or amelioration made to land and generally whatever is erected on or affixed to land which is intended to enhance its value, beauty or utility, or adapt it to new or further purposes. Examples of improvements to real property include, but are not limited to, structures, buildings machinery, equipment, electrical systems, mechanical systems, roads, and water and wastewater treatment and distribution systems.

"Land surveyor" means a person who, by reason of his knowledge of the several sciences and of the principles of land surveying, and of the planning and design of land developments acquired by practical experience and formal education, is qualified to engage in the practice of land surveying, and whose competence has been attested by the Board

through licensure as a land surveyor.

The "practice of land surveying" includes surveying of areas for a determination or correction, a description, the establishment or reestablishment of internal and external land boundaries, or the determination of topography, contours or location of physical improvements, and also includes the planning of land and subdivisions thereof. The term "planning of land and subdivisions thereof" shall include, but not be limited to, the preparation of incidental plans and profiles for roads, streets and sidewalks, grading, drainage on the surface, culverts and erosion control measures, with reference to existing state or local standards.

"Professional engineer" means a person who is qualified to practice engineering by reason of his special knowledge and use of mathematical, physical and engineering sciences and the principles and methods of engineering analysis and design acquired by engineering education and experience, and whose competence has been attested by the Board through licensure as a professional engineer.

The "practice of engineering" means any service wherein the principles and methods of engineering are applied to, but are not necessarily limited to, the following areas: consultation, investigation, evaluation, planning and design of public or private utilities, structures, machines, equipment, processes, transportation systems and work systems, including responsible administration of construction contracts. The term "practice of engineering" shall not include the service or maintenance of existing electrical or mechanical systems.

"Responsible charge" means the direct control and supervision of the practice of architecture, professional engineering, or land surveying.

§ 54.1-401. Exemptions.–The following shall be exempted from the provisions of this chapter:

1. Practice of professional engineering and land surveying by a licensed architect when such practice is incidental to what may be properly considered an architectural undertaking.

2. Practice of architecture and land surveying by a licensed professional engineer when such practice is incidental to an engineering project.

3. Practice as a professional engineer, architect, land surveyor or certified landscape architect in this Commonwealth by any person not a resident of and having no established place of business in this Commonwealth, or by any person resident in this Commonwealth whose arrival is recent, provided that such person is legally qualified for such professional service in another state or country and files within fifteen days after commencement of such practice an application, with the required fee, for licensure as a professional engineer, architect or land surveyor or certification as a landscape architect. The exemption shall continue until the Board has had sufficient time to consider the application and grant or deny licensure or certification.

4. Engaging in the practice of professional engineering as an employee under a licensed professional engineer, engaging in the practice of architecture as an employee under a licensed architect, or engaging in the practice of land surveying as an employee under a licensed land surveyor; provided, that such practice shall not include responsible charge of design or supervision.

5. Practice of professional engineering, architecture or land surveying solely as an employee of the United States. However, the employee shall not be exempt from other provisions of this chapter if he furnishes advisory service for compensation to the public in connection with engineering, architectural or land surveying matters.

~~6. Practice of professional engineering, architecture or land surveying as a regular full-time, salaried employee of this Commonwealth or any political subdivision thereof; provided that such person does not furnish advisory service for compensation to the public or as an independent contracting party in this Commonwealth or any political subdivision thereof in connection with engineering, architectural or land surveying matters.~~

~~7.~~ *6.* Practice of architecture or professional engineering by an individual, firm or

corporation on property owned or leased by such individual, firm or corporation, unless the public health or safety is involved.

~~8.~~ *7.* Practice of engineering solely as an employee of a corporation engaged interstate commerce, or as an employee of a public service corporation, by rendering such corporation engineering service in connection with its facilities which are subject to regulation by the State Corporation Commission; provided, that corporation employees who furnish advisory service to the public in connection with engineering matters other than in connection with such employment shall not be exempt from the provisions of this chapter.

§ 54.1-402.1. State and local government employees; license exemptions for persons employed prior to July 1, 1990.—Any person engaged in the practice of engineering, architecture, or land surveying as those terms are defined in § 54.1-400 as a regular, full-time, salaried employee of the Commonwealth or any political subdivision of the Commonwealth on June 30, 1990, who remains employed by the same state agency or political subdivision shall be exempt until June 30, 2010, from the licensure requirements of § 54.1-406 provided the employee does not furnish advisory service for compensation to the public or as an independent contracting party in this Commonwealth or any political subdivision thereof in connection with engineering, architectural, or land surveying matters. The chief administrative officer of any agency of the Commonwealth or political subdivision thereof employing persons engaged in the practice of engineering, architecture, or land surveying as regular, full-time, salaried employees shall have the authority and responsibility to determine the engineering, architecture, and land surveying positions which have responsible charge of engineering, architectural, or land surveying decisions.

§ 54.1-406. License required.—A. Unless exempted by § *§* 54.1-401 ~~or~~ § , 54.1-402, *or 54.1-402.1,* a person shall hold a valid license prior to engaging in the practice of architecture or engineering which includes design, consultation, evaluation or analysis and involves proposed or existing improvements to real property.

Unless exempted by § 54.1-401 *or § 54.1-402.1* , a person shall hold a valid license pri to engaging in the practice of land surveying.

B. Except as authorized in § 54.1-402, any person, partnership, corporation or other entity offering to practice architecture, engineering, or land surveying without being registered or licensed in accordance with the provisions of this chapter, shall be subject to the provisions of § 54.1-111 of this title.

C. Any person, partnership, corporation or other entity which is not authorized to practice in accordance with this chapter and which uses the words "architecture," "engineering" or "land surveying" or any modification or derivative thereof in its name or description of its business activity in a manner that indicates or implies that it practices or offers to practice architecture, engineering or land surveying as defined in this chapter shall be subject to the provisions of § 54.1-111.

§ 54.1-410. Other building laws not affected; duties of public officials.—A. Nothing contained in this chapter or in the regulations of the Board shall be construed to limit the authority of any public official authorized by law to approve plans, specifications or calculations in connection with improvements to real property. This shall include, but shall not be limited to, the authority of officials of local building departments as defined in § 36-97 (10), to require pursuant to the Uniform Statewide Building Code, state statutes, local ordinances, or code requirements that such work be prepared by a person licensed or certified pursuant to this chapter.

B. Any public body authorized by law to require that plans, specifications or calculations be prepared in connection with improvements to real property *or in other matters which require the exercise of professional judgment* shall establish a procedure to ensure that *the review or preparation of* such plans, specifications or calculations *require the exercise of independent professional judgment* be *reviewed or* prepared by an architect, professional engineer, land surveyor or landscape architect licensed, certified or authorized pursuant to this chapter in any case in which the exemptions contained in § *§* 54.1-401 ~~or~~ § , 54.1-402 , *or 54.1-402.1* are not applicable.

A review of plans or inspection of facilities for compliance with an adopted code or standard by any public body which does not require independent professional judgment shall not require the services of an architect, professional engineer, land surveyor or landscape architect licensed or certified pursuant to this chapter.

Official Use By Clerks	
Passed By The House of Delegates	**Passed By The Senate**
without amendment ☐	without amendment ☐
with amendment ☐	with amendment ☐
substitute ☐	substitute ☐
substitute w/amdt ☐	substitute w/amdt ☐
Date: _____	Date: _____
_____	_____
Clerk of the House of Delegates	Clerk of the Senate

1990 SESSION

LD2345129

SENATE BILL NO. 196

Offered January 22, 1990

A BILL to amend and reenact §§ 54.1-400, 54.1-401, 54.1-406, and 54.1-410 of the Code of Virginia and to amend the Code of Virginia by adding a section numbered 54.1-402.1, relating to the regulation of architects, engineers, surveyors, and landscape architects.

Patrons--Nolen, Calhoun and Russell; Delegate: Mayer

Referred to the Committee on General Laws

Be it enacted by the General Assembly of Virginia:

1. That §§ 54.1-400, 54.1-401, 54.1-406, and 54.1-410 of the Code of Virginia are amended and reenacted and the Code of Virginia is amended by adding a section numbered 54.1-402.1 as follows:

§ 54.1-400. Definitions.--As used in this chapter unless the context requires a different meaning:

"Architect" means a person who, by reason of his knowledge of the mathematical and physical sciences, and the principles of architecture and architectural design, acquired by professional education, practical experience, or both, is qualified to engage in the practice of architecture and whose competence has been attested by the Board through licensure as an architect.

The "practice of architecture" means any service wherein the principles and methods of architecture are applied, such as consultation, investigation, evaluation, planning and design, and includes the responsible administration of construction contracts, in connection with any private or public buildings, structures or projects, or the related equipment or accessories.

"Board" means the Board for Architects, Professional Engineers, Land Surveyors and Landscape Architects.

"Certified landscape architect" means a person who, by reason of his special knowledge of natural, physical and mathematical sciences, and the principles and methodology of landscape architecture and landscape architectural design acquired by professional education, practical experience, or both, is qualified to engage in the practice of landscape architecture and whose competence has been attested by the Board through certification as a landscape architect.

The "practice of landscape architecture" by a certified landscape architect means any service wherein the principles and methodology of landscape architecture are applied in consultation, evaluation, planning (including the preparation and filing of sketches, drawings, plans and specifications) and responsible supervision or administration of contracts relative to projects principally directed at the functional and aesthetic use of land.

"Improvements to real property" means any valuable addition or amelioration made to land and generally whatever is erected on or affixed to land which is intended to enhance its value, beauty or utility, or adapt it to new or further purposes. Examples of improvements to real property include, but are not limited to, structures, buildings, machinery, equipment, electrical systems, mechanical systems, roads, and water and wastewater treatment and distribution systems.

"Land surveyor" means a person who, by reason of his knowledge of the several sciences and of the principles of land surveying, and of the planning and design of land developments acquired by practical experience and formal education, is qualified to engage in the practice of land surveying, and whose competence has been attested by the Board through licensure as a land surveyor.

The "practice of land surveying" includes surveying of areas for a determination or correction, a description, the establishment or reestablishment of internal and external land boundaries, or the determination of topography, contours or location of physical improvements, and also includes the planning of land and subdivisions thereof. The term

"planning of land and subdivisions thereof" shall include, but not be limited to, the preparation of incidental plans and profiles for roads, streets and sidewalks, grading, drainage on the surface, culverts and erosion control measures, with reference to existing state or local standards.

"Professional engineer" means a person who is qualified to practice engineering by reason of his special knowledge and use of mathematical, physical and engineering sciences and the principles and methods of engineering analysis and design acquired by engineering education and experience, and whose competence has been attested by the Board through licensure as a professional engineer.

The "practice of engineering" means any service wherein the principles and methods of engineering are applied to, but are not necessarily limited to, the following areas: consultation, investigation, evaluation, planning and design of public or private utilities, structures, machines, equipment, processes, transportation systems and work systems, including responsible administration of construction contracts. The term "practice of engineering" shall not include the service or maintenance of existing electrical or mechanical systems.

"Responsible charge" means the direct control and supervision of the practice of architecture, professional engineering, or land surveying.

§ 54.1-401. Exemptions.—The following shall be exempted from the provisions of this chapter:

1. Practice of professional engineering and land surveying by a licensed architect when such practice is incidental to what may be properly considered an architectural undertaking.

2. Practice of architecture and land surveying by a licensed professional engineer when such practice is incidental to an engineering project.

3. Practice as a professional engineer, architect, land surveyor or certified landscape architect in this Commonwealth by any person not a resident of and having no established place of business in this Commonwealth, or by any person resident in this Commonwealth whose arrival is recent, provided that such person is legally qualified for such professional service in another state or country and files within fifteen days after commencement of such practice an application, with the required fee, for licensure as a professional engineer, architect or land surveyor or certification as a landscape architect. The exemption shall continue until the Board has had sufficient time to consider the application and grant or deny licensure or certification.

4. Engaging in the practice of professional engineering as an employee under a licensed professional engineer, engaging in the practice of architecture as an employee under a licensed architect, or engaging in the practice of land surveying as an employee under a licensed land surveyor; provided, that such practice shall not include responsible charge of design or supervision.

5. Practice of professional engineering, architecture or land surveying solely as an employee of the United States. However, the employee shall not be exempt from other provisions of this chapter if he furnishes advisory service for compensation to the public in connection with engineering, architectural or land surveying matters.

~~6. Practice of professional engineering, architecture or land surveying as a regular full-time, salaried employee of this Commonwealth or any political subdivision thereof; provided that such person does not furnish advisory service for compensation to the public or as an independent contracting party in this Commonwealth or any political subdivision thereof in connection with engineering, architectural or land surveying matters.~~

~~7.~~ *6.* Practice of architecture or professional engineering by an individual, firm or corporation on property owned or leased by such individual, firm or corporation, unless the public health or safety is involved.

~~8.~~ *7.* Practice of engineering solely as an employee of a corporation engaged in interstate commerce, or as an employee of a public service corporation, by rendering such corporation engineering service in connection with its facilities which are subject to

regulation by the State Corporation Commission; provided, that corporation employees who furnish advisory service to the public in connection with engineering matters other than in connection with such employment shall not be exempt from the provisions of this chapter.

§ 54.1-402.1. State and local government employees; license exemptions for persons employed prior to July 1, 1990.—Any person engaged in the practice of engineering, architecture, or land surveying as those terms are defined in § 54.1-400 as a regular, full-time, salaried employee of the Commonwealth or any political subdivision of the Commonwealth on June 30, 1990, who remains employed by the same state agency or political subdivision shall be exempt until June 30, 2010, from the licensure requirements of § 54.1-406 provided the employee does not furnish advisory service for compensation to the public or as an independent contracting party in this Commonwealth or any political subdivision thereof in connection with engineering, architectural, or land surveying matters. The chief administrative officer of any agency of the Commonwealth or political subdivision thereof employing persons engaged in the practice of engineering, architecture, or land surveying as regular, full-time, salaried employees shall have the authority and responsibility to determine the engineering, architecture, and land surveying positions which have responsible charge of engineering, architectural, or land surveying decisions.

§ 54.1-406. License required.—A. Unless exempted by § *§* 54.1-401 ~~or §~~ , 54.1-402, *or 54.1-402.1,* a person shall hold a valid license prior to engaging in the practice of architecture or engineering which includes design, consultation, evaluation or analysis and involves proposed or existing improvements to real property.

Unless exempted by § 54.1-401 *or § 54.1-402.1* , a person shall hold a valid license prior to engaging in the practice of land surveying.

B. Except as authorized in § 54.1-402, any person, partnership, corporation or other entity offering to practice architecture, engineering, or land surveying without being registered or licensed in accordance with the provisions of this chapter, shall be subject to the provisions of § 54.1-111 of this title.

C. Any person, partnership, corporation or other entity which is not authorized to practice in accordance with this chapter and which uses the words "architecture," "engineering" or "land surveying" or any modification or derivative thereof in its name or description of its business activity in a manner that indicates or implies that it practices or offers to practice architecture, engineering or land surveying as defined in this chapter shall be subject to the provisions of § 54.1-111.

§ 54.1-410. Other building laws not affected; duties of public officials.—A. Nothing contained in this chapter or in the regulations of the Board shall be construed to limit the authority of any public official authorized by law to approve plans, specifications or calculations in connection with improvements to real property. This shall include, but shall not be limited to, the authority of officials of local building departments as defined in § 36-97 (10), to require pursuant to the Uniform Statewide Building Code, state statutes, local ordinances, or code requirements that such work be prepared by a person licensed or certified pursuant to this chapter.

B. Any public body authorized by law to require that plans, specifications or calculations be prepared in connection with improvements to real property *or in other matters which require the exercise of professional judgment* shall establish a procedure to ensure that *the review or preparation of* such plans, specifications or calculations *requiring the exercise of independent professional judgment* be *reviewed or* prepared by an architect, professional engineer, land surveyor or landscape architect licensed, certified or authorized pursuant to this chapter in any case in which the exemptions contained in § *§* 54.1-401 ~~or §~~ , 54.1-402 , *or 54.1-402.1* are not applicable.

A review of plans or inspection of facilities for compliance with an adopted code or standard by any public body which does not require independent professional judgment shall not require the services of an architect, professional engineer, land surveyor or landscape architect licensed or certified pursuant to this chapter.