Hampton Roads Regional Special Inspection Guidelines and Procedures

2003 USBC Edition

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Participating Localities:

Accomack
Cape Charles
Chesapeake
Chincoteague
Franklin
Hampton
Isle of Wight
James City County
Newport News
Norfolk
Northampton
Poquoson
Portsmouth
Suffolk
Southampton
Virginia Beach
Williamsburg
York County

ACKNOWLEDGMENTS

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Preface

As noted in the BOCA International manual ***Designing a Special Inspection Program***,

> The effects of structural failures are far too many to list. The seriousness of such events gained the attention of the U.S. government. In August of 1982, a Subcommittee, chaired by Albert Gore, Jr., held investigative hearings to examine the causes of structural failure and find common problems associated with these conditions. The Subcommittee's ultimate goal was to eliminate those problems; thereby, decreasing the number of failures. (BOCA, P. 2)

To accomplish this goal, the Hampton Roads building safety community has joined together to formulate a uniform set of procedures for the manner in which participating jurisdictions enforce special inspection provisions of the Virginia Uniform Statewide Building Code (USBC). The provisions for special inspections are intended to provide a higher degree of expertise in the implementation of the structural design for critical aspects of building construction not normally found in the local building department.

The USBC effective November 16, 2005, incorporates and amends the International Code Council, Inc. (ICC) 2003 International Building Code. The ***Hampton Roads Regional Special Inspection Guidelines and Procedures*** provides and coordinates the procedures for special inspections that are required by both the referenced USBC and IBC. This procedure is intended to be useable during the design and permitting process and on the job site by containing the pertinent information needed for successful application of a special inspection program.

The ***Hampton Roads Regional Special Inspection Guidelines and Procedures*** includes the following:

1. The responsibilities of the registered design professional responsible for the structural design;
2. The role of each member of the building construction team to include the registered design professionals, building owner, contractors, the special inspectors and agents, and local building official;
3. The experience and qualifications necessary to supervise and perform special inspections;
4. Identification of the required areas of special inspections, and;
5. Administrative procedures that include a uniform special inspection form that is accepted by the participating localities, important definitions, reporting requirements, and conflict resolution procedures;

The purpose of the ***Hampton Roads Regional Special Inspection Guidelines and Procedures*** is to increase awareness of the special inspection requirements and to have a uniform procedure applicable throughout the participating Hampton Roads communities. In addition, the procedure should help reduce the problem associated with permitting and performing special inspections in participating localities. Should you have any questions or suggestions for future editions of this document, feel free to contact the Procedure Coordinator noted on page 1.

1. Introduction

A. Purpose

The provisions for special inspections are intended to provide a higher degree of scrutiny for aspects of construction that, upon failure, would cause significant harm. These aspects of construction include soil suitability analysis, fabrication and installation of structural steel members, certain concrete and masonry construction, fabrication and installation of wood structural elements, pile and pier foundations, sprayed fire-resistant materials, wall panels and veneer systems, EIFS, special cases and smoke control systems as detailed in the International Building Code (IBC).

The IBC as adopted by reference through the Virginia Uniform Statewide Building Code (USBC) intends that an experienced expert be in responsible charge of the inspection of these special types of construction. The Hampton Roads building safety community has joined together in agreement to implement a uniform procedure for the manner in which jurisdictions enforce the special inspection requirements of the USBC and the IBC. This includes the standard for experience and qualifications necessary to adequately control the work being performed, duties of the special inspector, reporting requirements, as well as oversight by each jurisdiction. It specifies the type and manner of work and how it is to be performed and any supervision required. It also clarifies the requirements for reporting the results and record keeping.

This procedure is intended to safeguard public safety and general welfare through structural strength of building materials by:

- Clearly defining the responsibility of all parties involved in the special inspection process and
- Standardizing the necessary qualifications required for Special Inspectors and Laboratories and
- Applying the special inspection provisions of the USBC in a consistent manner across the Hampton Roads Community.

B. Background

Numerous structural failures occurred during the late 1970's and early 1980's throughout the United States. These failures resulted in personal tragedies and tremendous property damage costs. However, most if not all of these failures, were predicable in nature and centered on one common theme; lack of an adequate construction inspection process.

In August of 1982, the U.S. House of Representatives, Subcommittee on Investigations and Oversight, chaired by Albert Gore, Jr., held investigative hearings to examine the causes of structural failures. This subcommittee was part of the Committee on Science and Technology. In March of 1984, the Committee on Science and Technology's report titled *Structural Failures in Public Facilities*, House Report 98-621, was presented to the 98th Congress. The following are highlights from this report.

The central issue addressed by the Subcommittee was:

> "Are there common problems associated with structural failures, the elimination of which would decrease the number of failures?"

While the Subcommittee identified over twenty contributing factors, two common problems were felt to be the most critical;

- The need for improved organization on construction projects and better communication between participants.
- The need for construction inspection by the Structural Engineer of Record (SER) during the construction of principal structural components.

The Subcommittee found that:

> "For a variety of reasons, the structural engineer of record or his designee is often not present on the job site during the construction of principal structural components. The absence of the structural engineer has permitted flaws and changes on site to go unnoticed and uncorrected."

The Subcommittee recommended that:

> "Professional organizations, such as the Building Officials and Code Administrators International (BOCA), the International Conference and Building Officials (ICBO), and the Southern Building Code Conference International, should make every effort to ensure that provisions are written into the building codes and adopted in public forum which make the on-site presence of the structural engineer mandatory during the construction of structural components on public facilities."

Model code organizations and building officials have attempted to address structural failures by enacting and enforcing Special Inspection provisions since 1987. However, the model codes fell short of requiring the Structural Engineer of Record to serve as the Special Inspector.

As time has elapsed and memories fade, special inspections and the role of the Structural Engineer of Record have been topics of controversy and confusion in recent years. Many organizations, such as the American Consulting Engineers Council and the Virginia Structural Engineers Council as well as the Council of American Structural Engineers (CASE), agree with the Subcommittee's recommendations and believe strongly that the SER or his agent should serve as the Special Inspector whenever possible and practical.

2. Definitions

Words used in this procedure shall have a meaning as defined in the USBC and the IBC. Unless otherwise expressly stated, other words and terms shall have the meaning shown in this procedure. Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies.

Agents of Special Inspector (Agents). Qualified individuals or agencies working under the direction of the SI who are providing the inspections and tests necessary to complete the special inspection process.

Approved. See IBC-202

Approved agency. See IBC-1702.1

Approved documents. Includes building construction documents as approved by the municipality including all approved revisions; and also
Fabrication and erection documents as approved by municipality including all approved revisions.

Approved fabricator. See IBC-1702.1

Architect of Record (AR). The registered design professional (RDP**)** retained by the Owner to design or specify architectural construction in accordance with the USBC and whose signature and seal appears on the approved architectural construction documents.

Building. See USBC-202

Building Official. The local government authority charged with the administration and enforcement of the USBC. This shall include any duly authorized technical assistant as specified in the USBC.

Construction documents. See IBC-202

Contractor: A general contractor licensed in the Commonwealth of Virginia (See Commonwealth of Virginia, Title 54.1)

Fabrication item. See IBC-1702.1

Fabrication and erection documents. All of the written, graphic, and pictorial documents prepared or assembled after issuance of a building permit and in addition to the municipality approved construction documents, describing the design, location, and physical characteristics of the building components or materials necessary for fabrication, assembly, or erection of the elements of the project. (Examples would include, but are not limited to, concrete reinforcing shop drawings, steel fabrication and erection shop drawings, and metal building fabrication and erection shop drawings.)

Final Report of Special Inspections. A certification by the special inspector which shall indicate that all construction elements subject to special inspections as identified by the jurisdiction approved Statement of Special Inspections (SSI) for all materials or phases of construction have been inspected prior to concealment, and in the special inspector's professional opinion and knowledge, the construction project complies with jurisdiction's approved Construction Documents.

Geotechnical Engineer of Record (GER). The RDP retained by the Owner to design or specify earthwork and foundations in accordance with the USBC, and whose seal and signature appear on the jurisdiction approved geotechnical report.

Inspection. The continuous or periodic observation of work and the performance of tests for certain building or structural components to establish conformance with jurisdiction approved documents as required by the USBC and the IBC.

Inspection certificate. See IBC 1702.1

Inspection and testing agency. An established and recognized agency or agencies, meeting the requirements of ASTM E 329 and accredited, retained by the Owner, independent of the contractors performing the work subject to special inspections, to perform special inspections and materials testing required by the USBC and the IBC. See IBC-1702.1 Approved agency.

Owner. See USBC-202.

Pre-engineered structural elements. Structural elements specified by the SER but which may be designed by a specialty RDP. (Examples are items such as open web steel joists and joist girders; wood trusses; combination wood, metal and plywood joists; pre-cast concrete elements; prefabricated wood or metal buildings; tilt-up concrete panel reinforcement and lifting hardware.)

Primary structural system. The combination of elements which serve to laterally brace and support the weight of the building's structural shell, the applicable live loads based upon use and occupancy, wind, snow, ice, thermal and seismic environmental loads.

Registered Design Professional (RDP). See USBC-202

Primary Registered Design Professional of Record. The leader of the design team charged with the preparation of construction documents, either an architect or engineer. The Primary Registered Design Professional of Record is responsible for determining and interpreting the needs of the client and for coordinating the work of the other members of the design team.

Special Inspection, continuous and periodic. See IBC-1702.1

Sprayed fire-resistant materials. See IBC-1702.1

Structural observation. See IBC-1702.1

Shall. This term indicates mandatory requirements.

Special Inspector (SI). The SI is the RDP who is directly responsible for special inspections, materials testing and related services as described in the approved SSI. The SI shall be retained by the Owner, independent of the contractors performing the work subject to special inspection. The SI must be approved by the Building Official. The SI shall be listed as Agent 1 on the SSI.

Statement of Special Inspections (SSI). The SSI is a statement prepared by an RDP and shall be approved by the appropriate RDP(s) of Record and submitted by the permit applicant. The SSI includes the scope (schedule) of the special inspection services applicable to a construction project, and the RDP's and inspection and testing agencies that will provide those services. **The SSI is required as a condition for permit issuance in accordance with IBC as amended by USBC and must be approved by the Building Official.**

Structural Engineer of Record (SER). The RDP retained by the Owner to design or specify structural documents in accordance with the USBC, and whose signature and seal appear on the jurisdiction approved structural construction documents.

Structure. See USBC-202.

3. Responsibilities

The **Building Official** is responsible for the issuance of the building permit and the Certificate of Occupancy. Prior to issuing the building permit, the Building Official will review and approve the Construction Documents, the SSI, and the qualifications of the SI and the Agents. The Building Official shall review field reports of special inspections as directed by these guidelines and procedures. The Building Official has the authority to issue a stop work order if it is found that the approved special inspectors or laboratories are not being utilized to perform required special inspections. The Certificate of Occupancy or final inspection shall be issued only after the Building Official has received and approved the Final Report of Special Inspections.

The **Contractor** is responsible for the construction of the project in accordance with the approved Construction Documents and the USBC. In addition, the Contractor is responsible for controlling the quality of construction and for providing the SI and Agents safe access to the elements that require inspection or testing. The Contractor shall coordinate construction related activities, including scheduling and timely notification of the need for Special Inspections and shall cooperate with the project's design professionals, including the SI and Agents. The Contractor shall make the site available for inspections as necessary and shall deliver samples for testing when needed. The Contractor shall respond promptly when informed of nonconforming work. The special inspection process does not relieve the Contractor of responsibility for quality control.

The **Owner** shall be responsible for the fees and costs related to the performance of special inspection services. The Owner or their authorized agent shall sign the SSI.

The Primary Registered Design Professional of Record (PRDP of Record) shall be responsible for informing the Owner of the need to provide for Special Inspections and for assisting the Owner as may be needed to retain the services of an SI. A Registered Design Professional (RDP) shall complete a SSI that shall include the special inspector(s) and Agent(s). The RDP shall also review and act upon conditions noted in interim special inspection reports. The RDP shall also be responsible for supplying the SI with the necessary copies of current appropriate Construction Documents and approved submittals, fabrication, and erection documents, including those revisions and change orders affecting work to be inspected or tested.

The **Special Inspector (SI)** is responsible for performing, documenting, managing and coordinating the special inspections and the efforts of the various Agents. Individual Agents may be retained by the Owner or by the SI, but they are responsible to the SI. The Agents who are responsible for conducting inspections or tests shall be identified in the SSI that is submitted to the Building Official. The SI shall provide copies of inspection reports to the RDP of Record, Owner, Contractor and Building Official. All discrepancies shall be brought to the attention of the Contractor for correction. The SI shall report deviations from the approved Construction Documents to the appropriate RDP of Record for their resolution. Uncorrected work shall be reported to the Building Official and the appropriate RDP of Record.

The **Structural Engineer of Record (SER)** shall be responsible for identifying in the Construction Documents the specific structural special inspections to be performed for the project in order to meet the requirements of the USBC and any other requirements specified by the SER.

4. When Special Inspections are Required

The USBC requires special inspections be made in accordance with the requirements of the IBC. The requirements for special inspections shall be determined prior to and are requisite for issuance of the building permit.

Special inspections are required for building components identified in the IBC when the design of these components is required to be performed by a professional engineer or architect. (See attached CHART A in Appendix B which is taken from § 54.1 – 402 of the Code of Virginia.)

Special inspections are not required:

- For work of a minor nature or as warranted by conditions in the jurisdiction as approved by the building official.
- Unless otherwise required by the building official, for occupancies in Groups R-3, R-4 or R-5 and occupancies in Group U that are accessory to a residential occupancy.

Note: Check the requirements for each component of a building or structure listed in IBC Chapter 17 to determine if the exceptions to the requirement for special inspections of that component are applicable.

5. Special Inspector/Laboratory Qualifications

Special inspections shall be performed by individuals and agents that are qualified in accordance with these procedures and are under the direct supervision of an RDP in responsible charge of special inspection activities. The RDP shall ensure that the individuals under their charge are performing only those special inspections that are consistent with their knowledge and training for the specified inspections in accordance with ASTM E329 and the USBC that is in force at the time of permit issuance.

The USBC requires that special inspections must be conducted under the supervision of a registered design professional. This places a requirement that the individual responsible for the coordination of special inspections (Agent 1) must be a Virginia licensed engineer or architect. Individuals or firms that conduct testing and/or special inspections (and the procedures they must follow) must comply with the requirements of ASTM E329. Firms providing special inspection services (or qualifications for individual inspectors) may submit documentation demonstrating equivalency by another recognized standard to the minimum qualifications, certification and experience requirements of ASTM E329. The Building Official may approve the firm or individual after evaluating and determining that equivalency has been met.

Written documentation shall be provided to the Building Official demonstrating the applicable Agency's laboratory accreditation. Individual resumes' indicating pertinent training, certifications and/or other qualifications shall be provided for special inspection personnel associated with the project. Each local building department may prescribe the manner of qualification documentation and frequency of updating information regarding firm or individual inspector approval.

6. Pre-construction Meeting

Pre-construction meetings are to be conducted by the SI at the start of the project unless work is of a minor nature and waived by the Building Official. The meeting is to be attended by the following individuals:

- Special Inspector
- Special Inspection Agent(s)
- Contractor
- Subcontractor's representatives for each trade of work specified in the SSI

The following individuals are to be notified of the pre-construction meeting and are encouraged to attend whenever possible:

- Owner
- RDP(s) of Record for each scope of work specified in the SSI
- Building Official (or his/her designee)

The meeting should provide a forum to review and explain the following:

- Work to be reviewed as specified in the SSI.
- Inspections performed by the Building Official.
- Timely notification required by the Contractor to the SI of when the work is ready for inspections during the course of the work.
- Procedures to document, correct, re-inspect, and complete items found to be non compliant or deficient.
- Identification of the RDP designated to resolve field deviations and non-compliant items if different from the RDPs responsible for preparing the construction documents.
- Contact information of individuals involved with the project.
- Discussion of the inspections and testing to be performed.
- Proper submission and distribution of reports and supplemental information.
- Discussion of coordination of all work to be performed in accordance with the Contract Documents and that no changes shall be permitted unless authorized and approved in writing by the RDP of Record for the work in question.

A report shall be prepared by the SI indicating that the pre-construction meeting was conducted. The report shall indicate the date and location of the meeting, who attended and a brief description of the items discussed. A copy of the report shall be distributed as required in Section 7.

7. Reports of Special Inspections

The SI shall provide copies of inspection reports to the SER, Owner, Contractor, and Building Official. The SI shall report deviations from the approved Construction Documents to the appropriate RDP for their resolution before proceeding with the inspection of the deficient work. All inspection and test reports shall be submitted within seven (7) working days of the inspection or test performed. In no case shall inspections be performed

by the Building Official that would allow the concealment of work required to be inspected by the special inspector unless verification has been received that the special inspection has been successfully performed.

Special inspection and testing reports shall indicate that the specified work has been inspected and found to be in compliance with the approved construction documents unless deficiencies are noted. Reports containing deficiencies or non compliant work shall describe the nature and specific location of the discrepancies.

At the completion of a project, all recorded non compliant work shall be documented as having been corrected or approved by the RDP(s) of Record or other RDP(s) responsible for any review and approval of deviations or changes from the approved construction documents as appropriate.

Upon request of the Building Official, the SI shall submit a letter indicating completion of a specific area or phase of special inspections and testing for a particular construction discipline.

Upon completion of all special inspections and testing specified on the SSI, the SI shall, after review and approval by the appropriate RDP(s), submit a Final Report of Special Inspections to the Building Official for review and approval. **The Building Official review and approval is required prior to final building inspection approval or issuance of a Certificate of Occupancy.**

8. Completing the Statement of Special Inspection (SSI)

A complete SSI shall be provided with the application for permit. A complete SSI will contain the following:

- The Statement of Special Inspection form shall be completed to include original signatures by the parties identified on the SSI to include:
    - A Registered Design Professional (RDP) is required to complete the statement and schedule. Although not required, typically this is accomplished by an RDP associated with the project design and understanding the critical elements. This can be the Structural Engineer of Record (SER), Special Inspector (SI) or any other RDP knowledgeable of the project that can execute the form. Their name is typed/printed on the line “Type or print name of the preparer of the Schedule.” The Virginia RDP seal and signature of the preparer is to be located above the printed name where indicated.
    - The applicant’s signature is required if the person applying for the permit is different from the owner. This can be the owner’s authorized representative, an RDP authorized by the owner or the appropriately licensed contractor that will be performing the work. The applicant provides a signature on the “Permit Applicant’s Signature” line. If the applicant and owner are the same and the owner has signed on the “Owner’s Authorization” line, a seperate signature is not required on this line.
    - The project owner’s authorization is required as they are responsible for the fees and costs of the special inspector. By signing this form, they acknowledge that special inspections are required for the project and agree to notify the Building Official of any changes regarding the special inspection agents. The owner provides a signature on the “Owner’s Authorization” line.
    - The Primary RDP of Record for the design provides a signature on the “Primary RDP of Record” line. The Primary RDP of Record is ususally the person with the most direct contact with the owner. Typically, this would be the primary design professional that coordinated the completion of the plans. By signing, the Primary RDP of Record is not taking on a responsibility for the entire special inspection process nor approval of the special inspection team. The signature is an acknowledgement that special inspections are required on the job based on the design of

his/her project, has advised the owner of their responsibility to provide and pay for special inspections, and has assured that special inspections are properly called for in the schedule for areas dictated by his/her design are incorporated.

- The Structural Engineer of Record (if different from the Primary RDP of Record noted above) signs the SER line. The signature is an acknowledgement that the SER has reviewed the statement to ensure all required inspections dictated by his/her design are incorporated.

- The company name of the Special Inspector (Agent 1) is to be typed or printed on "Special Inspector" line. The RDP overseeing the implementation of special inspections for the project for the above named company will place his/her signature in the "Special Inspector (Signature)" line.

- The Building Official shall sign the form after all required original signatures have been executed, he/she is satisfied that the area(s) of special inspections have been properly identified and called for, and he/she is satisfied that the special inspection agents and testing laboratories are properly qualified and certified. The signature of the Building Official shall signify acceptance and approval of the Statement/Schedule of Special Inspections.

- The Schedule of Special Inspections shall be included with proper identification of elements requiring special inspections and the associated Agent(s) responsible for inspection and/or testing.

- Agents for special inspections shall be identified to include address, phone number and responsible party. (Agent 1, Agent 2, Laboratory, etc…) Agent 1 shall always be the primary special inspector responsible for the coordination of the entire special inspection process.

- Proper documentation as to appropriate qualifications and certifications as discussed in Section 5.

- Changes to a special inspector or testing laboratory approved by the Building Official after a permit has been issued must be submitted in the form of a new Statement and Schedule of Special Inspections. This must be approved by the Building Official prior to resuming special inspections.

9. Referenced Documents

- The most current edition of the USBC.
- The most current edition of the IBC published by the International Code Council.
- Special Inspections: Implementation in Fairfax County; October 1, 2003.
- National Practice Guidelines for Special Inspections by CASE (Council of American Structural Engineers).
- ASTM E-329.

10. Revisions to this document (including Statement of Special Inspections)

This document is endorsed by the jurisdictions listed on the cover sheet. Revisions will be made from time to time by this group. Any unauthorized revision may cause the document not to be accepted by the jurisdictions.

Appendix A

HAMPTON ROADS AREA STATEMENT OF SPECIAL INSPECTIONS

PROJECT

_____

_____

_____

PERMIT APPLICANT

_____

_____

_____

PRIMARY RDP OF RECORD

_____

_____

_____

STRUCTURAL ENGINEER OF RECORD

_____

_____

_____

This Statement of Special Inspections is submitted as a condition for permit issuance in accordance with the International Building Code (IBC) as stated in the Virginia Uniform Statewide Building Code (USBC). It includes a Schedule of Special Inspections applicable to this project as well as the name of the Special Inspector, and the identity of other testing laboratories or agencies intended to be retained for conducting these inspections or tests.

The Special Inspector shall keep records of all inspections, and shall furnish inspection reports to the Building Official, appropriate RDP(s), Owner and Contractor. All discrepancies shall be brought to the immediate attention of the Contractor for correction. If the discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official and appropriate registered design professional(s). Interim reports shall be submitted to the Building Official, Owner, Contractor and the appropriate RDP(s) according to the *Hampton Roads Regional Special Inspection Guidelines and Procedures*.

Jobsite safety is solely the responsibility of the contractor. Materials and activities to be inspected are not to include the contractor's equipment and methods used to erect or install the materials listed. **All fees/costs related to the performance of Special Inspections shall be the responsibility of the Owner. Additionally, the undersigned (RDP or SER) are only acknowledging that the items enumerated on the Schedule of Special Inspections are consistent with the required design elements, the applicable sections of the Uniform Statewide Building Code and their area of expertise.**

REVIEW, AUTHORIZATION & ACCEPTANCE

Permit Applicant *(If not Owner)*:

Signature / date: _____

Printed Name: _____

Owner's Authorization *(If other than Applicant)*:

Signature / date: _____

Printed Name: _____

Primary RDP of Record:
(Review and Acceptance of Schedule)
Signature / date: _____

Printed Name: _____

SER of Record:
(Review and Acceptance of Schedule)
Signature / date: _____

Printed Name: _____

Building Official's Acceptance:

Signature / date: _____

Printed Name: _____

SCHEDULE OF SI PREPARED BY:

Virginia RDP Seal of SI Preparer

_____

Printed Name of the Preparer of the Schedule (on line above)

Special Inspector:

Signature / date: _____

Printed Name: _____

SI Company Name: _____

SCHEDULE OF SPECIAL INSPECTIONS

MATERIAL/ACTIVITY	TYPE OF INSPECTION	APPLICABLE TO THIS PROJECT			
		Y/N	EXTENT/REFERENCE	AGENT	COMPLETED
GENERAL					
Pre-construction conference	Meeting with parties listed in Section 6 of HRRSIGP to discuss Special Inspection procedures		Scheduled by SI with the Contractor prior to commencement of work		
EARTHWORK					
Site preparation (building)	Field testing and inspection		Field Review, IBC 1704.7.1		
Fill placement (building)	Review submittals, field testing and inspection		Field Review, IBC 1704.7.2		
Fill compaction (building)	In-place density tests		Field Review, IBC 1704.7.3		
Foundation sub-grade	Field inspection of foundation subgrade prior to placement of concrete		Field Review		
PILE FOUNDATIONS					
Test piles	Monitor driving of test piles		IBC 1704.8		
Pile installation	Monitor driving of piles, including cut off and tip elevation		IBC 1704.8		
Pile load test	Monitor pile load test		IBC 1704.8		
Pile survey	Review as-driven survey		IBC 1704.8		
CONCRETE					
Materials	Review product supplied versus certificates of compliance and mix design		Submittal & Field Review, IBC 1704.4.1, ACI 318: Ch. 4 and 5, IBC 1904, 1905.2-1905.4, 1914.2, 1914.3		
Reinforcing steel	Field inspection of placement		Field Review, ACI 318:3.5, and Chapter 7, IBC 1704.4, 1903.5, 1907, 1914.4		
Formwork installation	Field inspection		Field Review, IBC 1906, ACI 318:6.1, 6.2		
Concreting operations and placement	Field inspection of placement		Field Review, ACI 318:5.9-10, IBC 1704.4, 1905.9, 1905.10, 1914.6, 1914.7, 1914.8		
Concrete curing	Field inspection of curing process		Field Review, ACI 318:5.11-13, IBC 1704.4, 1905.11, 1905.13, 1914.9		
Concrete strength	Evaluation of concrete strength		Laboratory Testing, ACI 318:5.6, IBC 1704.4, 1906.2, 1914.10		

PRECAST CONCRETE					
Quality Control	In-plant review **		IBC 1704.2		
Erection and installation	Field inspection of in-place precast		ACI 318: Ch. 16		
MASONRY					
Materials	Review of products supplied versus certificate of compliance and material submitted		Submittal & Field Review, ACI 530.1; Part 2, IBC 1704.5		
Strength	Testing/review of strength		Submittal & Field Review, ACI 530.1; 1.4, IBC 1704.5		
Mortar and Grout	Inspection of proportioning and mixing		Field Review, IBC 1704.5, ACI 530.1;2.6		
Reinforcement	Inspect condition, size, location, and spacing		Field Review, IBC 1704.5, ACI 530.1;3.4		
Protection	Inspect procedures for protection during cold and hot weather		Field Review; IBC 1704.5, ACI 530.1;1.8		
Anchorage	Inspection of anchorages		Field Review, ACI 530; 2. 1. 4, 4.9, 5.8, ACI 530.1;2.4, IBC 1704.5		
Masonry operations and installation	Inspection of application and installation		Field Review, ACI 530.1; Part 3, IBC 1704.5		
STRUCTURAL STEEL					
Quality Control	In-plant inspection of quality control procedures**		IBC 1704.2		
Bolts, nuts, and washers – materials	Material identification markings Review of certificate of compliance		Submittal & Field Review, AISC 335, Section A3.4; LRFD, Section A3.3		
Bolts, nuts, washers – installation	Inspection of in-place high-strength bolts, bearing type, and slip critical connections		Submittal & Field Review, IBC 1704.3.3, AISC LRFD Section M2.5		
Structural steel – materials	Material identification markings and Review of Certificate of Compliance		Submittal & Field Review, IBC 1704.3, ASTM A6, A568		
Structural steel – installation	Inspection of member locations, structural details for bracing, connections, stiffening		Submittal & Field Review, IBC 1704.3, ASTM A6, A568		
Weld filler materials and welder certification	Review of identification markings, certificate of compliance, and welder certifications		Submittal & Field Review, AISC ASD A3.6, LRFD A3.5		
Welds	Inspection and testing of welds		Field Review, IBC 1704.3.1, AWS, D1.1, D1.3		
Structural details	Inspection of Structural details		Field Review, IBC 1704.3.2		
WOOD					
Verify fabrication/quality control procedures	Review submittal and installation		IBC 1704.6		
High-Load Diaphragms- Installation	Inspection of sheathing, framing size, nail and staple diameter and length, number of fastener lines, and fastener spacing.		IBC 1704.6.1		

SPRAYED CEMENTITIOUS AND MINERAL FIBER FIRE RESISTIVE MATERIALS					
Structural member surface conditions	Field Review of surface conditions prior to application		IBC 1704.11.1		
Application	Field review of application operations		IBC 1704.11.2		
Thickness	Field review of applied thickness		IBC 1704.11.3		
EXTERIOR INSULATION AND FINISH SYSTEMS					
Application	Field Review of application/installation		IBC 1704.12		
SPECIAL CASES					
Alternative Materials and Systems	As requested by Building Official, review system and installation.		IBC 1704.13		
WIND AND SEISMIC QUALITY ASSURANCE PLANS					
Wind and/or Seismic Requirements	Review of the quality assurance plan and performance of the Special Inspections required.		IBC 1705, 1706, 1707, 1708		
SMOKE CONTROL					
Special Inspection of smoke control systems	Leakage testing and recording of device location. Pressure difference testing, detection, and control verification		IBC 1704.14		

INSPECTION AGENTS	FIRM	ADDRESS	TELEPHONE
1. Special Inspector Agent 1			
2. Special Inspector			
3. Special Inspector			
4. Special Inspector			
5. Testing Laboratory			
6. Testing Laboratory			

Note: * The qualifications of the Special Inspector and Testing Laboratories are subject to the approval of the Building Official.
** Inspection of quality control procedures required only if fabricator is not regularly inspected by an independent inspection agency.

FINAL REPORT OF SPECIAL INSPECTIONS

PROJECT

_____
_____
_____
_____

PERMIT APPLICANT

_____
_____
_____
_____

PRIMARY RDP OF RECORD

_____
_____
_____

STRUCTURAL ENGINEER OF RECORD

_____
_____
_____

To the best of my information, knowledge, and belief, the special inspections required for this project, and itemized in the statement of special inspections submitted for permit, have been completed.

The following discrepancies that were outstanding since the last interim report dated_____, have been corrected:

_____
_____
_____

Interim reports submitted prior to this final report, and numbered _____ to _____, form a basis for, and are to be considered an integral part of this final report.

Respectfully submitted,

_____
Signature

_____
Date

_____
Type or Print Name **(Agent 1)**

Seal of SI

Upon completion of all special inspections and testing, the SI shall submit a Final Report of Special Inspections to Building Official for review and approval. The Building Official review and approval is required prior to final building inspection approval or issuance of a Certificate of Occupancy.

Appendix B

A/E SEAL ON DRAWINGS

The purpose of these charts and notes is for quick reference to determine in accordance with § 54.1 - 402 of the Code of Virginia if an architect's or engineer's (A/E) seal is required on documents for proposed construction.

CHART A - GENERAL DESIGN

A proposed structure which is classified within any of the categories marked "Yes" requires an A/E seal on the documents. Separate requirements apply as to when the electrical, plumbing or mechanical systems in such structures require an A/E seal (see Charts B and C).

GROUP	BRIEF DESCRIPTION	AREA (SQ. FT.)			HEIGHT (STORIES)	
		5,000 OR LESS	5,001 TO 15,000	OVER 15,000	3 OR LESS	OVER 3
A[1]	ASSEMBLY	YES	YES	YES	YES	YES
B	BUSINESS	-	YES	YES	-	YES
E	SCHOOLS & DAY CARE CENTERS	YES	YES	YES	YES	YES
F	FACTORY & INDUSTRIAL	-	-	YES	-	YES
H	HIGH HAZARD	YES	YES	YES	YES	YES
I	INSTITUTIONAL	YES	YES	YES	YES	YES
M	MERCANTILE	-	YES	YES	-	YES
R-1	HOTEL, MOTEL & DORMITORY	YES	YES	YES	YES	YES
R-2[7]	MULTI-FAMILY RESIDENTIAL	-	-	YES	-	YES
R-3	2 FAMILY ATTACHED	-	-	YES	-	YES
R-4	RESIDENTIAL ASSISTED LIVING	-	-	YES	-	YES
R-5	1 AND 2 FAMILY DWELLINGS	-	-	YES	-	YES
S	STORAGE (NON_FARM)	-	-	YES	-	YES
U	UTILITY & MISCELLANEOUS	-	-	YES	-	YES
ALL	INTERIOR DESIGN	SEE	NOTE	#4		

1. Churches are exempt if building does not exceed 5,000 square feet or three stories, and the occupant load does not exceed 100.

2. A local building code official may require an A/E seal even if not required to do so by this chart.

3. The law requires that, where an A/E seal is not present, the plans must have the name of the individual (not company) responsible for the design, including the individual's occupation and address.

4. Additions, remodeling or interior design defined under § 54.1-400 of the Code of Virginia might not require an A/E seal. For construction, additions or remodeling resulting in a change in occupancy, occupancy load, modification to the structural system, change in access or egress or an increase in the fire hazard an A/E seal is required in accordance with § 54.1-400, although notes 1 and 2 still apply.

5. Any unique design of structural elements for floors, walls, roofs or foundations requires an A/E seal, regardless of whether or not the remainder of the plans require such certification.

6. Buildings, structures, or electrical and mechanical installations which are not otherwise exempted but which are of standard design, provided they bear the certification of a professional engineer or architect registered or licensed in another state, and provided that the design is adapted for the specific location and conformity with local codes, ordinances and regulations, and is so certified by a professional engineer or architect licensed in Virginia may not require an A/E seal.

7. One exit and three stories or less Group R-2 buildings would normally be exempted from an A/E seal except where required by Note 2. Most all other three stories or less Group R-2 multi-family buildings are required by the building officials to have A/E seals for the construction documents.