

Virginia Tech University Building Officials Office

Uniform Statewide Building Code Special Inspection

Guidelines and Procedures

2012 VUSBC Edition



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The University Building Official expresses appreciation to the VBCOA Region 8 Hampton Roads Regional Special Inspection Committee and Roanoke County for the valuable assistance in the creation of the Virginia Tech Special Inspection Guidelines and Procedures.

Application Summary

Special Inspections in accordance with this program are required under the following conditions:

1. New construction where the design is or was required to be prepared by a registered design professional licensed in the Commonwealth of Virginia, refer to Appendix Chart A.
2. Alterations, Additions, or Renovations where the design is or was required to be prepared by a registered design professional licensed in the Commonwealth of Virginia, refer to Chart A of the Related Laws.
3. In any situation where required by the ICC Evaluation Report, Responsible Designer, or Building Official.

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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, Virginia Tech has formulated a uniform set of procedures based on experience in several Virginia regions, for the manner in which the University shall enforce special inspection provisions of the Virginia Uniform Statewide Building Code (VUSBC). 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 state or local building departments. This guideline and procedure shall clarify, or replace the relevant chapters and forms in the Commonwealth of Virginia's Construction and Professional Services Manual (CPSM) for projects done on VA Tech or on VA Tech property in the Commonwealth.

The 2012 VUSBC effective July 14, 2014, incorporates and amends the International Code Council, Inc. (ICC) 2014 International Building Code (IBC) and related references and codes. The *Virginia Tech Special Inspection Guidelines and Procedures* provides and coordinates the procedures for special inspections that are required by both the referenced VUSBC and IBC. These procedures and guidelines are 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 *Virginia Tech Special Inspection Guidelines and Procedures* include the following:

- The responsibilities of the Registered Design Professional responsible for the structural design;
- The role of each member of the building construction team to include the Registered Design Professionals, Building Owner (VA TECH), Contractors, the Special Inspectors and Agents, and University Building Official;
- The experience and qualifications necessary to supervise and perform special inspections;
- Identification of the required areas of special inspections, and;
- Administrative procedures that include a uniform special inspection form, important definitions, reporting requirements, and conflict resolution procedures.

The purpose of the *Virginia Tech Special Inspection Guidelines and Procedures* is to increase awareness of the special inspection requirements and to have a uniform procedure applicable to all campus projects. Should you have any questions or suggestions for future editions of this document, contact the University Building Official.

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 risk to life or other harm. These aspects of construction include soil suitability analysis, fabrication and installation of structural steel members, cold formed steel members and decking, 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 (VUSBC) intends that an experienced expert be in responsible charge of the inspection of these special types of construction. This document 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 the University Building Official. It specifies the type and manner of work and how it is to be performed and the 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;
- Standardizing the necessary qualifications required for Special Inspectors as well as material testing and Laboratories;
- Applying the special inspection provisions of the VUSBC in a consistent manner across the Virginia Tech Community in a manner consistent with other jurisdictions across the Commonwealth.

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 Council of Engineers Companies (ACEC) and the Virginia Structural Engineers Council (VSEC) as well as the Council of American Structural Engineers (CASE), agree with the Subcommittee’s recommendations and believe strongly that the Structural Engineer of Record 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 VUSBC 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 Special Inspectors who are providing the inspections and tests necessary to complete the special inspection process.

Approved. See VCC Chapter 2 as amended

Approved agency. See VCC Chapter 2 as amended

Approved documents. Includes building construction documents approved by the jurisdiction including all approved revisions; and also fabrication and erection documents approved by jurisdiction including all approved revisions.

Approved fabricator. See VCC VCC Chapter 2 as amended, 1704.2.5.2

Architect/Engineer (A & E). This is used to describe the design professionals who comprise the design team hired by the owner to prepare the design and construction documents and provide construction services to support the construction effort. The team is typically comprised of the Architect of Record, The Structural Engineer of Record, The Mechanical, Electrical and Plumbing Engineer or Engineers of Record and such other consultants as may be defined by the project or contract documents. Typically one of the design professionals is the lead or primary design professional.

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

Building. See VCC Chapter 2 as amended

Building Official (also referred to as the University Building Official (UBO) at Virginia Tech and Commissioner in some jurisdictions). VCC Chapter 2 as amended

Certificate of Compliance. See VCC Chapter 2 as amended, 1704.2.5.2

Certificate of Occupancy, CO. This is an authorization for occupancy of a building upon the completion of the work based on the approved construction documents and successful acceptance after all fire code and building code related inspections are satisfied. This recognizes the building is considered in general compliance, although under the building code, there is an addition two year period in which code violations can be identified and required to be resolved.

Construction documents. See VCC Chapter 2 as amended

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

Discrepancy: A deviation from the approved plans and specifications and/or Virginia Uniform Statewide Building Code.

Fabricated item. See VCC Chapter 2 as amended

Fabrication and erection documents (placement drawings). All of the written, graphic, and pictorial documents prepared or assembled after issuance of a building permit and in addition to the university 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 SI which shall indicate that all construction elements subject to Special Inspections as identified by the jurisdiction approved Statement and Schedule of Special Inspections (SSI) for all materials or phases of construction have been inspected prior to concealment, and in the SI's professional opinion and knowledge, the construction project complies with jurisdiction's approved Construction Documents.

Geotechnical Engineer of Record (GER). The Registered Design Professional retained by the Owner to design or specify earthwork and foundation support in accordance with the VUSBC, 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 VUSBC and the IBC.

Inspection Agents. The process of special inspection will typically require separate agents for specific areas. Inspections of geotechnical compliance shall be conducted by a geotechnical agent. An agent certified in materials testing is required. An agent familiar with the structural requirements shall be an agent. Based on

experience and qualifications, an agent may be authorized to address more than one area of responsibility. The University Building Official may require verification of experience.

Inspection Certificate. See VCC Chapter 2, as amended.

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 VUSBC and the IBC. See IBC-1703.1 Approved agency.

Main Windforce-Resisting System: *An assemblage of structural elements assigned to provide support and stability for the overall structure. The system generally receives wind loading from more than one surface.*

Owner. See VCC Chapter 2, as amended.

Personnel. See VCC 1703.1.3 as amended

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

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 VCC-Chapter 2 as amended

Registered Design Professional in Responsible Charge. See VCC Chapter 2

Registered Design Professional Seal. A seal placed on documents prepared by or under the supervision of a registered design professional. The application of a professional seal indicates that the professional has exercised direct control and personal supervision over the work to which it has been affixed. An appropriately licensed or certified professional shall apply a seal to all final documents in which they have had direct control and personal supervision of.

Risk Category. See VCC Chapter 2, 1604.5

Seismic Design Category. See VCC Chapter 2 as amended.

Seismic Force Resisting System. See VCC Chapter 2 as amended.

Shall. This term indicates mandatory requirements.

Shear Wall. See VCC Chapter 2 as amended.

Special Inspector (SI). Special Inspector (SI). See VCC Chapter 2. The SI is the Registered Design Professional in Responsible Charge 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). See VCC 1704.2.3 as amended. 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 VUSBC and must be approved by the Building Official.

Special Inspection, Continuous: See VCC Chapter 2. The full time observation of work requiring special inspection by an approved special inspector who is present in the area where the work is being performed. (Noted as "c" on the scope or schedule of inspections in the statement of special inspections.)

Special Inspection, Periodic: See VCC Chapter 2. The part-time or intermittent observation of work requiring special inspection by an approved special inspector who is present in the area where the work has been, or is being performed, or at the completion of groups of task involved in completion of the work. One-hundred percent of the work required to be inspected shall be inspected. Under special circumstances, and after a substantiating data is reviewed, the Building Official may decrease the percentage of work that is required to be inspected.

Sprayed fire-resistant materials. See VCC Chapter 2-1702.1

Structure. See VCC-Chapter 2 as amended.

Structural observation. See VCC-1702.1

Submittal Review Stamp. A stamp applied to a submittal indicating that the registered design professional has reviewed the submittal, and that the submittal clearly and completely indicates in detail the product (s) that are proposed to be installed. In addition to the product, the RDP and/or UBO, may require the method(s) of installation to be completely and clearly defined. The intent of the shop drawing review process is to ensure that the RDP's intended results coincide with the contractors proposed products and methods.

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 VUSBC and must be approved by the University Building Official.

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

Structure. See VCC-Chapter 2 as amended

Temporary Certificate of Occupancy, TCO. This is an authorization for occupancy of a building for a specific time and for a specific set of limitations. While it is issued only where the minimum requirements for fire,

fire, and general safety as well as egress are met for a specific set of situations, it is not indicative of a completed structure.

Virginia Uniform Statewide Building Code, The adopted statewide building code in Virginia and includes Parts I, II, and III.

Virginia Construction Code, Part I of the VUSBC which adopts and amends the IBC.

Abbreviations

ACI	ACI International (American Concrete Institute)
AISC	American Institute of Steel Construction, Inc.
AISI	American Iron and Steel Institute
ASCE	American Society of Civil Engineers
ASNT	American Society of Non-Destructive Testing
ASTM	American Society for Testing Materials
AWS	American Welding Society
BIA	Brick Industry Association
CASE	Council of American Structural Engineers
CM	Construction Manager (Project Manager)
DB	Design Builder
EDI	Exterior Design Institute
EIFS	Exterior Insulation and Finish Systems
GC	General Contractor
IBC	International Building Code
ICC	International Code Council, Inc.
NCMA	National Concrete Masonry Association
NEC	NFPA-70-99 National Electric Code
NFPA	National Fire Protection Association
NICET	National Institute for Certification in Engineering Technologies
MEPR	The Mechanical/Electrical/Plumbing Engineer of Record
OSHA	U.S. Dept. of Labor Occupational Safety and Health Administration
PCA	Portland Cement Association
PCI	Pre-cast/Pre-stressed Concrete Institute
PM	Project Manager
PTI	Post Tensioning Institute
SDI	Steel Deck Institute
SFRM	Spray-Applied Fire Resistant Material
SJI	Steel Joist Institute
TMS	The Masonry Society

TPI	Truss Plate Institute
VOSHA	Virginia Occupational Safety and Health Administration

3. Responsibilities

The **University Building Official** is responsible for permit plan review, the issuance of the building permits, code mandated inspections, and the Certificate of Occupancy. Prior to issuing the Building Permit, the University Building Official will review and approve the Construction Documents, the SSI, and the qualifications of the SI and the Agents. The University Building Official shall review field reports of special inspections as directed by these guidelines and procedures. The University 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 University Building Official has received and approved the Final Report of Special Inspections.

The **Project Manager** is the person who has been given the responsibility and authority to manage a project, regardless of the size. Typically they will be University employees from either the Facilities or Residence and Dining Departments. The PM normally applies for and holds the permits for a project as well as manages the contracts and contractors.

The **Contractor**, either a General Contractor (BC), Design-Builder (DB) or Construction Manager (CM), is responsible for the construction of the project in accordance with the Construction Documents and the VUSBC; this would include the coordination and direction of all subcontractors, fabricators and material suppliers.

The Contractor is responsible for means and methods of construction as well as for construction site safety. The Contractor is responsible for scheduling inspections and tests. Sufficient notice and lead time must be allowed for the inspection and testing to be performed without impeding the construction operations. The Contractor must cooperate with the inspection and testing agencies. When deficiencies are identified, the Contractor must take corrective actions to comply with the contract documents or remedy the deficiencies as directed by the appropriate Registered Design Professional. The Contractor is responsible for testing services that are required for material submittals and are not part of the Special Inspection program, such as aggregate tests, concrete mix designs, testing of controlled fill materials, etc. The Contractor is the primary person or firm responsible for compliance with OSHA and VOSHA standards and regulations. Safe access must be provided to allow inspections and tests to be performed. This may require the Contractor to provide scaffolding, ladders or lifts.

The contractual responsibility of a Construction Manager (CM) can vary widely therefore it is important to define the CM's role and responsibility relative to special inspection. The Contractor is responsible for completing the construction work in compliance with the Contract Documents and the Building Code. The Special Inspection and/or Quality Assurance program does not relieve the Contractor of his or her responsibility to perform 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)** 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 RDP shall complete a SSI that shall include the Special Inspectors (SI) 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. It shall be the responsibility of the RDP to review and act upon conditions note in the interim special inspections reports. Please note the following sub-classifications of an RDP that may or may not be an active part of any given project:

Structural Engineer of Record (SER) is the Registered Design Professional (RDP) in Responsible Charge of the structural system and 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 VUSBC and any other requirements specified by the SER. The SER is responsible for preparing the Statement of Special Inspections (SSI) for the structural elements subject to inspection and testing. The SER should review inspection and testing report pertaining to the structural system and take appropriate actions when deficiencies are identified.

The SER will often serve as the Special Inspection Coordinator (SI) and perform many of the structural inspections. Special Inspection services are not a part of the SER's basic construction phase services such as shop drawing review and structural observation. Special Inspection services are not a part of the SER's basic construction phase services such as shop drawing review and structural observation. Special Inspection services should generally be performed under a separate contract directly with the building Owner.

Architect of Record (AR) is the Registered Design Professional (RDP) in Responsible Charge of the architectural building elements and is often the Prime Design Professional for "typical" building projects. The Architect is responsible for preparing a Statement of Special Inspections (SSI) for the architectural components such as EIFS systems or veneers. The architect, when serving as the Prime Design Professional, must inform the building owner of the Special Inspection requirements and assist the Owner in engaging one or more qualified Special Inspectors, inspectors and testing agencies. The Prime Design Professional is responsible for confirming that each Registered Design Professional prepares an SSI for their individual building systems.

Mechanical/Electrical/Plumbing Engineers of Record (MEPR) are the Registered Design Professionals (RDP) in Responsible Charge of the HVAC systems, electrical systems, fire protection systems and plumbing systems. The MEP's are responsible for preparing their own portions of the Statement of Special Inspections (SSI) for the MEP systems such as smoke control systems, emergency power systems or piping containing hazardous materials.

The **Special Inspector (SI)** is responsible for managing, coordinating, performing, documenting and reporting special inspections and the efforts of the various Inspection 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 University Building Official. The SI shall provide copies of inspection reports to the RDP of Record, Owner, Contractor and University 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 and to the Building Official for record and follow up.

4. When Special Inspections are required

The VUSBC 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 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 University Building Official.
- For building components unless the design involves the practice of professional engineering and architecture as defined by the VUSBC.

- 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.

It is the intent that all critical assemblies be verified prior to concealment. The frequency of each inspection task as either periodic or continuous based on the nature of the work, the materials, and the assembly. Please refer to the definitions of continuous and periodic inspection. Please see IBC Section 1702 and the special inspection requirements for each element to determine whether periodic or continuous inspections are required.

Please note that older formats for the Special Inspection included the term “spot.” This has no definition and shall not be used.

5. Special Cases

As per section 1705.1.1 of the IBC, Special Inspections shall be required for proposed work that is, in the opinion of the Building Official or the RDP, unusual in its nature, such as but not limited to, the following examples:

- Construction materials and systems that are alternatives to materials and systems prescribed by the building code according to Section 112.2 USBC.
- Unusual design applications of materials described in the building code.
- Materials and systems required to be installed in accordance with additional manufacturer’s instructions that prescribe requirements not contained in the building code or in standards referenced by the building code.

6. Qualifications

In preparing the SSI, the RDP should specify the required credentials for the individuals performing specific inspections or tests. These requirements will vary depending on the complexity of the project.

In the attached Statement of Special Inspections (SSI), there are some references to Agency/Personnel qualifications that are already listed; these are considered to be a minimum by the Building Official, unless otherwise specifically approved. A Registered Design Professional (RDP) is considered to meet any of the minimum credentials and certifications that should be considered for the Special Inspector, Testing Agent and Fabricator. The agent shall have verifiable experience in the field which they are proposing to perform inspections.

Special Inspector (Coordinator and Agents)

Engineering Licensure: Engineering education and experience is a valuable prerequisite for performing inspections that require judgment in interpreting the Construction Documents and determining if the work conforms with the design intent.

Professional Engineering (PE) registration with a specialty in Structural Engineering or Geotechnical Engineering is a commonly specified credential for the inspection of critical structural and foundation elements. Fire Protection or Mechanical Engineering registration is required for smoke control commissioning.

Engineer in Training (EIT) registration can be specified for inspections that can be performed by an engineer who has not yet attained PE licensure, generally under the supervision of a PE.

7. Special Inspector/Laboratory Qualifications

Special inspection laboratory 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 the edition of ASTM E329 and the VUSBC that is in force at the time of permit issuance.

The VUSBC 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 University Building Official may approve the firm or individual after evaluating and determining that equivalency has been met.

Fabricator Shop Inspections

Where structural elements or assemblies are fabricated off site, such as structural steel, pre-engineered metal buildings, pre-cast concrete or prefabricated wood trusses, inspections are required to be performed in the fabricator's shop. The IBC requires that the Special Inspector review the fabricator's quality control procedures. The Code does not specifically state that inspections of the structural elements being fabricated is required, however this is generally understood as the intent. The emphasis of shop inspections should be on inspecting the quality of the fabricator's work rather than his means and methods of operation.

A fabricator is exempt from shop inspections when approved by the Building Official. Fabricators that are certified by industry organizations such as but not limited to, the American Institute of Steel Construction (AISC) or the Pre-cast Concrete Institute (PCI) are considered exempt. It is also permissible to be an exempt fabricator if ICC International Accreditation Services IAS has published an Evaluation Service Report on the fabricator in question. Fabricators that do not fall into one of these two broad categories can be reviewed on a case by case basis to determine whether the University Building Official determines the fabricator to be exempt from Special Inspector (SI) approval. When a fabricator has been approved, it is common practice for no inspections to be performed in the shop. Approved fabricators are required to submit a Fabricator's Certificate of Compliance at the completion of fabrication, per IBC section 1704.2.2, See Appendix E for a standard form that is to be used for obtaining this certification.

Conflicts of Interest

It is still common practice in some areas for the Contractor to hire an inspector and testing agency to perform special inspections and structural testing. This practice is not in the public interest and constitutes a conflict of interest. The VUSBC and IBC require inspectors and testing agencies to be engaged by the Owner or the Owner's agent and not by the Contractor, per sections 1703.1.1 and 1704.1. This clearly avoids the conflict of interest on a traditional Design-Bid-Build project. There are some projects where the Owner is also the Contractor and a potential conflict of interest may be unavoidable. Inspectors and testing agencies are required to disclose to the Building Official any potential conflicts of interest. Even if an inspector is hired directly by the Owner for a particular project, that same inspector could be working for the project's Contractor on a different project. This represents a potential conflict of interest and should be disclosed.

Written documentation shall be provided to the University 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. The University Building Official may prescribe the manner of qualification documentation and frequency of updating information regarding firm or individual inspector approval.

Thirty Party Certification Programs:

American Concrete Institute (ACI) There are several certification programs for concrete testing technicians and inspectors.

Concrete Field Testing Technician – Grade 1 is a certification for technicians who perform the field tests of concrete. The tests include concrete sampling, casting compression test cylinders, testing temperature, slump, air content and unit weight.

Concrete Construction Inspector – is a certification for inspectors who inspect reinforcing steel placement, concrete placement, batching, curing and protection.

Laboratory Testing Technician – Grade 1 or 2 and *Strength Testing Technicians* are certifications for laboratory testing technicians.

American Welding Society (AWS): Certification programs include the inspection of welding and structural steel.

Certified Welding Inspector (CWI) is a certification for technicians performing visual inspection of welds.

Certified Structural Steel Inspector is now a new certification program that is a joint effort of AWS and AISC.

American Society of Non-Destructive Testing (ASNT): *Non Destructive Testing Technicians – Level II or III* is a certification for technicians performing nondestructive testing of welds such as ultrasonic testing.

International Code Council (ICC): Originally an ICBO certification program for Special Inspectors, the program includes the following certifications:

- Structural Masonry Special Inspector
- Structural Steel and Welding Special Inspector
- Spray-Applied Fireproofing Special Inspector
- Prestressed Concrete Special Inspector
- Reinforced Concrete Special Inspector

National Institute for Certification Engineering Technologies (NICET): Certification programs are oriented towards the testing of materials for highway and transportation structures. Each certification has four levels.

- Concrete Technician – Levels I, II, III and IV
- Soils Technician – Levels I, II, III and IV
- Geotechnical Engineering Technician – Levels I, II, III and IV

Exterior Design Institute (EDI): EIFS Third Party Inspector certification covers forensic and construction inspection of Exterior Insulation and Finish Systems.

Others as approved by the Authority having Jurisdiction.

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 Inspections form shall be completed to include 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 a 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 shall 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, a 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 separate 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 University 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 usually 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 University Building Official shall sign the form after all required 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 University 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 as follows:
 - Yes - a one time or milestone event or inspection or meeting is a yes or no

C – Continuous, a reoccurring type of inspection

P – Periodic, a reoccurring type of inspection

NA - not required

- Note the associated Agent(s) responsible for inspection and/or testing (structural inspector, testing agent, smoke control agent, etc)
- 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 6.

9. 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 University Building Official. The meeting is typically to be attended by the following individuals:

- Special Inspector
- Special Inspection Agents
- Contractor or Construction Manager
- Subcontractor's representatives for each trade of work specified in the SSI
- Building Official (or designee)
- Project Manager or designee
- RDP(s) of Record for each scope of work specified in the SSI

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

- Discussion of the inspections and testing to be performed.
 - Work to be reviewed as specified in the SSI.
 - Other inspections outside the SSI such as contract compliance, envelope, owner's inspections, etc.
 - 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.
- 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 10.

10. Contracts and Fees

The Special Inspector should contract for services directly with the Owner or the Registered Design Professional in responsible charge acting as the Owner's Agent. The other Inspectors and Testing Agencies may also contract directly with the Owner, or they may be engaged by the Special Inspector. When the SER or other Registered Design

Professional serves as the Special Inspector, it is important that they distinguish the Special Inspection services from their Basic Services. When or if a site visit for structural observation or other inspection is performed, it should be clearly identified as such on the field report so as not to be confused with a Special Inspection.

It is strongly recommended that fees for Special Inspection services be established on an hourly rate basis. The Owner may request that the Special Inspector estimate the total fee for services, but such estimate should not be a “not to exceed” or “lump sum” amount. The Special Inspector does not have control over the Contractor’s scheduling or the quality of workmanship. These factors can have a dramatic effect on the amount of time that is required to properly perform the Special Inspections and Structural Testing. Under certain circumstances it may be appropriate to back charge the Contractor for some of the inspection and testing costs as follows:

- When work must be re-inspected or re-tested due to the Contractor’s work failing to meet the requirements of the Contract documents.
- When work must be re-inspected or re-tested due to the work not being completed at the time the Contractor scheduled an inspection or test.
- When the Contractor fails to notify the Special Inspector (SI) that field construction is at a point that required special inspections are to be performed.
- When excessive travel expenses are incurred to perform inspection or testing of work performed at a fabricator’s shop that is geographically remote from the project site.

The Contract Documents should clearly delineate the circumstances under which the Contractor could be back charged. In any event, all inspection and testing costs should be billed to the Owner who is responsible for back charging the Contractor.

11. Reports of Special Inspections

The SI or agent shall provide a report for each inspection according to the standards of ASTM E-329. The SI shall provide copies of inspection reports to the PRDP, SER, Owner, Contractor, and University 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 five (5) working days of the inspection or test performed. In no case shall inspections be performed by the University Building Official that would allow the concealment of work required to be inspected by the SI unless verification has been received that the special inspection has been successfully performed.

Special inspection and testing reports shall indicate what was inspected, what was observed, reference drawings or sketches and compliance or deviations including outstanding issues. Reports containing deficiencies or non compliant work shall describe the nature and specific location of the discrepancies. A map or sketch of the area inspected and photos of the area and assemblies inspected shall be provided with the report. Reports shall indicate each specific item on the SSI for the type of work that was inspected.

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 University 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.

12. Final Report of Special Inspections

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, which includes the completed Schedule of Special Inspections, and if applicable, a Fabricator’s Certificate of Compliance as required by IBC 1704.2.5.2 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.

13. Changes in Design, Construction and Special Inspection Personnel

In the event that any member, of the Special Inspections Team or the organizations or individuals contracted as agents to the Special Inspectors are changed during the course of construction, the *Owner* shall provide a written notification for such change to the University Building Official. Such notice shall identify the replacement organization or replacement individual and shall furnish the documentation necessary; including resume and experience to illustrate such organization or individual is qualified for the work required. The University Building Official shall approve or deny such replacement. The *Owner* shall then provide a revised Statement of Special Inspections signed by all parties. A new preconstruction meeting with the Design Team, Construction Team, Special Inspection Team, and the replacement organization or a replacement individual must be provided. The *Owner* shall ensure that there is a timely transfer of information and responsibility to the replacement party.

14. Referenced Documents

2012 Edition of the Virginia Construction Code that adopts by reference and amends the 2012 Edition of the IBC published by the International Code Council.

ASTM E-329, Standard specification for agencies engaged in construction inspection and testing.

AISC 360, Specification for Structural Steel Buildings.

TMS 402/ACI 530/ASCE 5, Masonry Standards Joint Committee (MSJC) Code.

2012 edition of the Hampton Roads Regional Special Inspection Guidelines and Procedures

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

Revisions will be made from time to time based on changes in the Virginia Construction Code or problems identified in the field.

Appendices

- Appendix A.Chart A for when SI is required
- Appendix B.Virginia Tech Statement of Special Inspections, 2009 Edition (HECO-6a)
- Appendix CStatement of Special Inspections – Qualifications of Inspectors and Testing Technicians
- Appendix D.....Schedule of Special Inspections, 2009 Edition (HECO-6b)
- Appendix E.Statement of Special Inspections - Interim Report of Special Inspector (HECO-6d)
- Appendix F.Minimum Interim Report Requirements
- Appendix G.....Final Report of Special Inspector (HECO-13.1)
- Appendix H.....Statement of Special Inspections – Contractor’s Statement of Responsibility (HECO-6e)
- Appendix I.Statement of Special Inspections – Fabricator’s Certificate of Compliance (HECO-6f)

Appendix A

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				

Notes: (Apply the following notes to all categories as applicable.)

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 be signed by 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 requires 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.

VIRGINIA TECH STATEMENT OF SPECIAL INSPECTIONS
2012 VUSBC

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 Special Inspection and Structural Testing requirements of the Building Code. It includes a schedule of Special Inspection services applicable to this project as well as the name of the Special Inspection Coordinator and the identity of other approved agencies to be retained for conducting these inspections and tests.

The Special Inspection Coordinator shall keep records of all inspections and shall furnish inspection reports to the Building Official and the Registered Design Professional in Responsible Charge. Discovered discrepancies shall be brought to the immediate attention of the Contractor for the correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official and the Registered Design Professional in Responsible Charge. The Special Inspection program does not relieve the Contractor of his or her responsibilities. Interim Reports shall be submitted to the Building Official and the Registered Design Professional in Responsible Charge.

A Final Report of Special Inspections documenting completion of all required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Use and Occupancy.

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 Virginia 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: _____



Licensed Professional Seal

SCHEDULE OF SI PREPARED BY:

Virginia RDP Seal of SSI Preparer

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

Special Inspector:

Signature / date: _____

Printed Name: _____

SI Company Name: _____

STATEMENT OF SPECIAL INSPECTIONS

Qualifications of Inspectors and Testing Technicians

The qualifications of all personnel performing Special Inspection and testing activities are subject to the approval of the Building Official. The credentials of all Inspectors and testing technicians shall be provided if requested.

Key for Minimum Qualifications of Inspection Agents:

When the Registered Design Professional in Responsible Charge, or the Office of the University Building Official deems it appropriate that the individual performing a stipulated test or inspection have a specific certification or license as indicated below, such designation shall appear below the Agency Number on the Schedule.

Registered Design Professionals

PE/SE	Structural Engineer - a licensed SE or PE specializing in the design of building structures
PE/GE	Geotechnical Engineer – a licensed PE specializing in soil mechanics and foundations
PE/FPE	Fire Protection Engineer – a licensed PE specializing in design of fire protection systems*
PE/ME	Mechanical Engineer – a licensed PE specializing in design of mechanical systems*
EIT	Engineer in Training – a graduate engineer who has passed Fundamentals of Engineering exam

*Special Inspection agent/firm shall have expertise in fire protection engineering, mechanical engineering, and certification as an air balancer.

American Concrete Institute (ACI) Certification

ACI-CFTT	Concrete Field Testing Technician
ACI-CCI	Concrete Construction Inspector
ACI-LTT	Laboratory Testing Technician – Grade 1 and 2
ACI-STT	Strength Testing Technician

American Welding Society (AWS) Certification

AWS-CWI	Certified Welding Inspector
AWS/AISC-SSI	Certified Structural Steel Inspector

American Society of Non Destructive Testing (ASNT) Certification

ASNT	Non Destructive Testing Technician – Level II or III
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International Code Council (ICC) Certification

ICC-SMSI	Structural Masonry Special Inspector
ICC-SWSI	Structural Steel and Welding Special Inspector
ICC-SFSI	Spray Applied Fire Proofing Special Inspector
ICC-PCSI	Pre-stressed Concrete Special Inspector
ICC-RCSI	Reinforced Concrete Special Inspector

National Institute for Certification in Engineering Technologies (NICET)

NICET-CT	Concrete Technician – Levels I, II, III & IV
NICET-ST	Soils Technician – Levels I, II, III & IV
NICET – GET	Geotechnical Engineering Technician – Levels I, II, III & IV

Exterior Design Institute (EDI) Certification

EDI-EIFS	EIFS Third Party Inspector
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VIRGINIA TECH SCHEDULE OF SPECIAL INSPECTIONS

MATERIAL/ACTIVITY	TYPE OF INSPECTION	APPLICABLE TO THIS PROJECT			DATE
		Y/C/P/N	EXTENT/REFERENCE	AGENT	COMPLETED
GENERAL					
Pre-construction conference	Preconstruction meeting		Scheduled by SI with the Contractor, UBO, A/E, and relevant subs prior to commencement of work	ALL	
EARTHWORK					
Site preparation (building)	Field testing and inspection		Field Review; IBC 1705.6		
Fill material (building)	Review submittals, field testing and inspection		Field Review; IBC 1705.6		
Fill compaction (building)	In-place density tests, lift thickness		Field Review; IBC 1705.6		
Excavation	Field inspection and verification of proper depth		Field Review; IBC 1705.6		
Foundation sub-grade	Field inspection of foundation subgrade prior to placement of concrete		Field Review; IBC 1705.6		
DEEP FOUNDATION ELEMENTS					
Materials	Review product, sizes, and lengths		Submittal and Field Review; IBC1705.7, 1705.8, 1705.9		
Test piles	Monitor driving of test piles		Field Review; IBC 1704.8, .9 or .10		
Installation	Monitor drilling, placement, plumbness, driving of piles, including recording blows per foot, cut off, and tip elevation		Field Review; IBC 1705.2, 1705.3, 1705.7		
Load test	Monitor pile load test		Field Review; IBC 1704.8, .9 or .10		
CONCRETE					
Materials	Review product supplied versus certificates of compliance and mix design		Submittal & Field Review; IBC 1705.3; ACI 318: Ch. 4 and 5; IBC 1904.2, 1910.2, 1903.3		
Installation of reinforcing steel, including prestress tendons and anchor bolts as well as welding	Field inspection of placement		Submittal and Field Review; ACI 318:3.5, 3.5.2 3.8.6 & Ch. 7 8.1.3 and 21.2.8; AWS D1.4; IBC 1705.3, 1908.5, 1909.1, 1910.4		
Formwork installation	Field inspection		Field Review; ACI 318: 6.1.1; IBC 1705.3		
Concreting operations and placement	Field inspection of placement/sampling		Field Review; ACI 318: 5.6, 5.8, 5.9-10; ASTM C 172, C 31; IBC 1705.3, 1910.6, 1910.7, 1910.8, 1910.10		
Concrete curing	Field inspection of curing process		Field Review; ACI 318: 5.11-13; IBC 1705.3, 1910.9		
Concrete strength	Evaluation of concrete strength		Laboratory Testing; ACI 318: 6.2; IBC 1705.3		
Application of forces for prestressed concrete	Field inspection		Field Review; ACI 318: 18.20; IBC 1705.3		
Grouting of prestress tendons	Field inspection		Field Review; ACI 318: 18.18.4; IBC 1705.3		

MATERIAL/ACTIVITY	TYPE OF INSPECTION	APPLICABLE TO THIS PROJECT			DATE
		Y/C/P/N	EXTENT/REFERENCE	AGENT	COMPLETED
PRECAST CONCRETE					
Verify fabrication/quality control procedures	In-plant inspection of fabrication/quality control procedures**		Submittal or Field Review; IBC 1705.3		
Erection and installation	Review submittals and as-built assemblies; Field inspection of in-place precast		Submittal and Field Review; ACI 318; Ch. 16; IBC Table 1705.3		
MASONRY (Level ____; Building Risk Category ____)					
Materials	Review of products supplied versus certificate of compliance and material submitted		Submittal & Field Review; ACI 530/ASCE 5; ACI 530.1/ASCE 6; IBC 1705.4, 1708		
Strength	Testing/review of strength		Submittal & Field Review; ACI 530/ASCE 5; ACI 530.1/ASCE 6; IBC 1705.4, 2105.2.2, 2105.3		
Mortar and Grout	Inspection of proportioning and mixing. Placement of mortar only.		Field Review; IBC 1705.4; ACI 530/ASCE 5; ACI 530.1/ASCE 6		
Grout placement, including prestressing grout	Verification to ensure compliance		Field Review; IBC 1705.4; ACI 530/ASCE 5; ACI 530.1/ASCE 6		
Grout space	Verification to ensure compliance		Field Review; IBC 1705.4; ACI 530/ASCE 5; ACI 530.1/ASCE 6; TMS 602		
Mortar, grout, and prism specimens	Observe Preparation		Field Review; IBC 1704.5, ACI 530.1; ASCE 6;		
Reinforcement, prestressing tendons, and connections	Inspect condition, size, location, and spacing		Field Review; IBC 1704.5; aCI 530/ASCE 5; ACI 530.1/ASCE 6		
Welding of reinforcing bars	Inspection and testing of welds		Field Review; IBC 1705.4; ACI 530/ASCE 5; ACI 530.1/ ASCE 6		
Prestressing force	Verify application and measurement		Field Review; IBC 1705.4; ACI 530/ASCE 5; ACI 530.1/ASCE 6		
Protection	Inspect procedures for protection during cold and hot weather		Field Review; IBC 1705.4.; ACI 530/ASCE 5; ACI 530.1/ASCE 6		
Anchorage	Inspection of anchorages		Field Review; ACI 530.1/ASCE 6, ASCE 6; IBC 1705.4; ACI 530/ASCE 5		
Masonry installation	Inspection of placement of masonry and joints		Field Review; ACI 530/ASCE 5; ACI 530.1/ASCE 6; IBC 1705.4		
STRUCTURAL STEEL					
Verify fabrication/quality control procedures	In-plant inspection of fabrication/quality control procedures** or submit Certificate of Compliance		IBC 1704.2.5, IBC 1704.2.5.1, 1704.2.5.2, 1705.2		
Bolts, nuts, and washers – materials	Material identification markings Review of Certificate of Compliance		Submittal & Field Review; IBC 1705.2.1; IBC 1705.2.2; IBC 1706; ASTM; AISC 360, Section A3.3		
Bolts, nuts, washers – installation	Inspection of in-place high-strength bolts, snug-tight joints, pre-tensioned and bearing type, and slip critical connections		Submittal & Field Review; IBC 1705.2.1, 1705.2.2.; AISC 360 Section M2.5		

MATERIAL/ACTIVITY	TYPE OF INSPECTION	APPLICABLE TO THIS PROJECT			DATE
		Y/C/P/N	EXTENT/REFERENCE	AGENT	COMPLETED
Structural steel – materials	Material identification markings and review of Certificate of Compliance		Submittal & Field Review; IBC 1705.2.1, 1705.2.2, 1706; ASTM A6, A568		
Structural steel details – installation	Inspection of member locations, structural details for bracing, connections, stiffening		Submittal & Field Review; IBC 1705.2.1, 1705.2.2, AISC 360		
Weld filler materials and welder certification	Review of identification markings, certificate of compliance, and welder certifications		Submittal & Field Review; ASTM AISC 360 A3.5		
Welds	Inspection and testing of welds		Field Review; IBC 1705.2.2.1; AWS D1.1, D1.3		
Cold-formed metal deck – materials	Review of identification marking manufacturer’s certified test results		Submittal and Field Review; IBC 1705.2.2; ASTM		
Cold-formed metal deck – installation	Review laps and welds		Submittal and Field Review; IBC 1705.2.2, AWS D1.3		
Cold-formed light frame construction – welds	Review welding operation		IBC 1705.10, 1705.10.2, 1705.10.3		
Cold form light frame construction wind resistance – screws	Review screw attachment bolting, anchoring hold downs, bracing, diaphragms, struts		Field Review; IBC 1705.10, 1705.10.2, 1705.10.3		
Cold-formed steel trusses spanning 60’ or greater	Inspection of temporary and permanent restraints/bracing		Field review IBC 1705.2.2.2		
WOOD					
Verify fabrication/quality control procedures	In-plant inspection of fabrication/quality control procedures** or submit Certificate of Compliance		Submittal or Field Review; IBC 1704.2.5, 1705.5, 1705.5.2		
Metal plate connected wood/metal trusses spanning 60’ or more	Review approved submittal and installation of restraint/bracing		Field Review; IBC 1704.2.5, 1705.5, 1705.2		
Joist Hangers – Materials/Installation	Review manufacturer’s material and test standards,		Field Review; IBC 1711, ASTM D 1761		
High-Load Diaphragms- Installation	Review submittal and as-built assemblies; Inspection of sheathing, framing size, nail and staple diameter and length, number of fastener lines, and fastener spacing.		IBC 1705.5, 1705.5.1		
Wood Shear Walls – installation	Review nailing, bolting, anchoring, fastening, diaphragms, struts, braces, and hold downs when fasteners are ≤ 4” on center.		Field Review; IBC 1705.10.1		

MATERIAL/ACTIVITY	TYPE OF INSPECTION	APPLICABLE TO THIS PROJECT			DATE COMPLETED
		Y/C/P/N	EXTENT/REFERENCE	AGENT	
MAIN WIND FORCE RESISTING SYSTEM					
Wind requirements	Review of the system components and installation for wood construction, cold-formed steel light frame construction, components, and cladding	P	Submittal and Field Review; IBC 1609, 1705, 1710	1	
SEISMIC FORCE RESISTING SYSTEMS					
Seismic requirements	Review of the designated seismic systems and seismic force resistance systems	P	Submittal and Field Review; IBC 1613, 1704.5.1, 1705.11, 1705.12; ASCE 7	1	
SMOKE CONTROL					
Special Inspection of smoke control systems	Leakage testing and recording of device location, pressure difference testing, flow measurement and detection, and control verification	Y	Field Review; IBC 1705.17, 1705.17.1, 1705.17.2	3	
SPRAYED FIRE RESISTIVE MATERIAL, FIRE RESISTANT PENETRATIONS; JOINTS, MASTIC AND INTERMESCENT FIRE RESISTANT COATING					
Structural member surface conditions	Field Review of surface conditions prior to application	P	AWCI 12-B; IBC 1705.13, 1705.13.2	2	
Application/thickness/density/bond strength	Field review of application operations, thickness, and density	P	ASTM E605, AWCI 12-B; IBC 1705.13.2; 1705.13.1, 1705.13.3, 1705.13.4; IBC 1705.13.5, 1705.13.6	2	
Mastic & Intumescent Fire Resistant Coating	Field review of application operations and thickness		AWCI 12-B; IBC 1705.14	2	
EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS)					
Application	Field Review of application/installation	Y	ASTM E2570, IBC 1705.15	2	
SPECIAL CASES					
Alternative Materials and Systems	As requested by Building Official, review system and installation	P	IBC 1705.1.1	1 or 2 or 3	

INSPECTION AGENTS	FIRM	Address and Telephone
1. Special Inspector:		
2. Materials and Testing Laboratory:		
3. Special Inspector Smoke Control System:		
4. (Additional Agents)		

- Note:
1. The Qualifications of the Special Inspector and Testing Laboratories are subject to the Approval of the Building Official.
 2. Inspection of quality control procedures required only if fabricator is not regularly inspected by an independent inspection agency approved by the A/E and AHJ.
 3. The Schedule of Special Inspections shall be expanded to include Architectural, Mechanical, and Electric components, as well as Storage Racks and Isolation Systems. Items in INC Section 1705.11
 4. Continuing Inspection (C)
 5. Periodic Inspection (P)
 6. Yes (use for a single event such as a meeting) (Y)
 7. No (use for a single event such as a meeting) (N)

Statement of Special Inspections

Interim Report of Special Inspections

Date: _____

To: _____

Job No.: _____
Date: _____ Time: _____
Project: _____
Location: _____
Owner: _____
Weather: _____ Temp: _____
Present at: _____
Meeting: _____

Building: _____
Permit No.: _____

Architect of Record: _____

Structural Engineer of Record: _____

Reg. Design Professional in Responsible Charge: _____

Field Observations:

Attached to this report are the following:

1. Summary of activity requiring special inspections for this period.
2. Log of Discrepancies Not Resolved at the Time of this Report

The undersigned states the above inspections and referenced documents have been reviewed and based upon and my observation of the work, I certify to the best of my knowledge and belief that the project and the building elements subject to this special inspection have been found to be in compliance with the approved documents and in conformance with project specifications. Violations of the Virginia Uniform Statewide Building Code observed in the conduct of special inspections were brought to the attention of the University Building Official and the owner for resolution and the resolution was approved.

(Attach continuation sheets as required to complete the description of corrections.)

Respectfully submitted,

Special Inspector

Type or print name

Signature

Date



MINIMUM INTERIM REPORT REQUIREMENTS

It is not the intent of this standard to necessarily dictate the specific format of a professional work product. It is provided to clearly detail what attributes shall be included in an interim special inspection report.

1. Special inspection reports shall be limited to the observations and issues of Special Inspections. In those cases that the inspection is being done in conjunction with construction inspections or inspectors may be on site for other inspections. All issues not related to Special Inspection must be on separate reports titled as required.
2. Special Inspection reports shall be clearly labeled or documented as such.
3. Special Inspection reports shall be numbered sequentially from 1.
4. The first report (Interim Special Inspection Report 1) shall be the record of the preconstruction meeting held prior to the construction. It shall clearly denote the minimum topics covered and any issues specific to the project.
5. The report shall clearly note:
 - a) The job
 - b) The building permit number
 - c) Those present at the Inspection or meeting
 - d) The date, time and weather during the Inspection
6. The area, items or assemblies inspected should be clearly identified. Where possible use column/grid coordinate from the design documents.
7. Specific observations shall be matched to specifications, construction documents and references.
8. Deviations shall be clearly identified in the report.
9. Unless resolved at the time of inspection, deviations shall be mentioned in subsequent reports until resolved.
10. A plan or other drawing of the construction shall be included and marked to show the extent of the inspection.
11. The general phrase “generally in accordance with plans and specifications,” “generally in conformance, “meet plans and specs,” etc. and other similar generalized observation comments have no value in describing the inspection or observation. The report shall provide specific detail and observation, and shall not use generalizations.
12. Several report examples are provided for clarity

INTERIM REPORT OF SPECIAL INSPECTION

Pre-Construction Meeting

Report No. 1

To: _____

Job No.: _____
Date: _____ Time: _____
Project: _____
Location: _____
Owner: _____
Weather: _____ Temp: _____
Present at: _____
Meeting: _____

Building: _____
Permit No.: _____

Architect of Record: _____

Structural Engineer of Record: _____

Reg. Design Professional in Responsible Charge: _____

General:

We conducted the Special Inspection pre-construction meeting as required by the ____ Edition of the Virginia Uniform Statewide Building Code (VUSBC), which adopts and amends the ____ Edition of the International Building Code (IBC). The pre-construction meeting was to review the Special Inspection requirements for the _____. For clarity, we note that Section 1702.1 of the 2006 IBC defines Special Inspections as inspections required of the materials, installation, fabrication, erection, or placement of components and connections requiring special expertise to ensure compliance with approved construction documents and referenced standards.

ITEMS OF DISCUSSION:

Item No. 1 – General Issues

- It was noted that the General Contractor, _____ is responsible for contacting _____, the Agent 1 Special Inspector, _____ the sole source for all Special Inspections required by Chapter 17 of the _____ Edition of the IBC. _____ will contact _____ the Agent 2 Materials and Laboratory Testing Agency, as required to conduct the required Laboratory and Materials Testing Services for soil, concrete, mortar, masonry grout and welding inspections. It was also noted that the Special Inspections are not a substitute for municipal inspections and the General Contractor must contact the _____ to schedule the required University inspections to follow the Special Inspections.
- We noted that the Special Inspector, Agent 1, is responsible to record the results of all inspections and provide those results to the Owner, General Contractor, Structural Engineer of Record (SER), Registered Design Professional (RDP), and the _____ Building Official.
- It was noted that _____ soil test, concrete test, and grout test reports will be provided to _____ for distribution to the project parties.
- It was noted that the masonry and precast subcontractors were not present during the preconstruction meeting. _____ will verify that the subcontractors understand Special Inspections as they mobilize to the site and provide written documentation of such.

Item No. 2 – Submittals

- We informed the General contractor that to properly perform the Special Inspections, the Special Inspector must have a copy of the _____ approved construction drawings, the final SER approved shop drawings, and product submittals. These shop drawings and product submittals include, but are

not limited to concrete mix design, concrete reinforcing steel, masonry, masonry grout, and horizontal masonry reinforcing/bolts. For clarity, we will provide a list of required submission documents under a separate cover to the General Contractor with a copy being sent to the Owner, Architect and SER.

- We noted that during construction, drawing changes may arise from field changes, clarifications, deviations, etc. These changes need to be distributed to the _____ for review and/or approval prior to installation and to the Special Inspector prior to inspection.

Item No. 3 – Foundation Soil/Building Pad

- Testing of the sub-soil and foundation grades, prior to placement of reinforcing, is required and will be performed by Agent 2.
- It was noted that the building pad is already prepared. Discussions with the General Contractor and _____ on site revealed that an inspection of the building pad had already been performed by _____. While on site, _____ confirmed that a copy of the _____ field report for this inspection had been forwarded to them and it was noted that some cut and fill had been required based on the soil conditions found at the time.

Item No. 4

- The concrete strip and spread footings, and the concrete slabs on grade were discussed including rebar/mesh placement, bulkheading, slab construction, and control joints. It was noted that all footings, slabs and any other building concrete pours must be inspected prior to placing concrete. It was also noted that the forms will be inspected.
- Installation of reinforcing was discussed including clearances, supports, and bar laps. It was noted that the reinforcing must be placed and supported in accordance with the SER requirements, typically noted as reinforcing chairs or concrete bricks. All reinforcing must be secured in place prior to pouring concrete as required by the ACI and IBC.
- We noted that installation of concrete during cold and hot weather conditions may be required. As a convenience, copies of the ACI documents on both cold weather and hot weather concreting were provided to the General Contractor during the meeting.
- It was noted that tolerances between the precast concrete panels and their supporting concrete footings was approximately $\frac{1}{4}$ ". It was also noted that close attention to the tolerance would have to be used to ensure that the precast concrete panels fit on the cast-in-place concrete footings correctly to ensure proper erection.
- Testing and curing of concrete cylinders was also discussed. The concrete subcontractor noted that a curing box would be provided and maintained on site for the use of the Agent 2, Materials and Laboratory Testing Agency. Slump, temperature, and air entrainment will be tested on all trucks. Batch to pour times will be closely monitored and shall not exceed ninety (90) minutes. The ACI documents for curing were provided to the General Contractor during the meeting.

Item No. 5

- The erection, placement, and plumbness of precast panels will be inspected.
- Panel anchorages and temporary bracing of panels during construction as per OSHA requirements will be inspected.
- It was noted that an issue remained outstanding regarding a proposed substitution of an expansion anchor to secure the concrete panels to the concrete footings. It was further noted by the contractor that they anticipated that the use of a substitute expansion anchor would be approved.
- Testing of welded connections was also discussed.

Item No. 6 – Masonry

- The inspection requirements for masonry construction and grouting were also addressed. Masonry installation as well as bed and head joint thickness will be reviewed.
- Hot and cold weather masonry construction procedures were reviewed.
- Installations of vertical and horizontal masonry reinforcing and grouting of the CMU cells were also discussed.
- Grout shall not be placed in greater than 5'-0" lifts without installing knockouts was discussed.

Item No. 7 – Deviation and Clarifications

- We noted to the General Contractor that the Special Inspector would not make decisions regarding design alternatives or design changes. Again, approval must be in written form from the SER, with a signed and dated seal on all copies provided to the Special Inspector.
- The General Contractor was also reminded that all deviations and/or clarifications in the structural design must be approved by the SER in writing, sealed, signed and dated.
- All re-inspections for deviations are additional services to the Architect/Owner who may back charge the appropriate subcontractor.

Item No. 8 – University Inspections

- Again it was noted that Agent 1 Special Inspections do not replace the normal _____ Building Code inspections required by the VUSBC and enforced by the University Building Official. The General Contractor was reminded to contact the Code Compliance Office as required, twenty four (24) hours in advance or at the latest prior to 6:30 am the day of the inspection, for the required inspections by University personnel.
- We noted that the requirements for inspections of the building components are identified in the _____ Edition of the VUSBC. The types and manner of inspections required and/or allowed by the building code were also discussed:
 - University Inspections – As required by the VUSBC
 - Special Inspections – As required inspections noted in the VUSBC and IBC Chapter 17.
 - Independent Inspections – Alternative inspection if approved by the municipality. A qualified inspection firm may provide inspections on a specific basis in lieu of the University’s inspections. However, request for specific independent inspections must be made by the Owner formally in writing to code compliance. Written approval will be at the sole discretion of the Director of Code Compliance.

Attached to this report are the following:

1. Summary of activity requiring special inspections for this period.
2. Log of Discrepancies Not Resolved at the Time of this Report

The undersigned states the above inspections and referenced documents have been reviewed and based upon and my observation of the work, I certify to the best of my knowledge and belief that the project and the building elements subject to this special inspection have been found to be in compliance with the approved documents and in conformance with project specifications. Violations of the Virginia Uniform Statewide Building Code observed in the conduct of special inspections were brought to the attention of the University Building Official and the owner for resolution and the resolution was approved.

(Attach continuation sheets as required to complete the description of corrections.)

Respectfully submitted,

Special Inspector

Type or print name

Signature

Date



INTERIM REPORT OF SPECIAL INSPECTION

Field Report No. 3

To: _____ Job No.: _____
_____ Date: _____ Time: _____
_____ Project: _____
_____ Location: _____
_____ Owner: _____
_____ Weather: _____ Temp: _____
_____ Present at: _____
_____ Meeting: _____
Building: _____
Permit No.: _____

Architect of Record: _____

Structural Engineer of Record: _____

Reg. Design Professional in Responsible Charge: _____

General:

At the request of the General Contractor, we provided a site visit on _____ morning, _____ to review a portion of the strip and spread footings, with their associated rebar, and formwork at the _____ located at _____. Our review was performed in conformance with the Special Inspection requirements noted in Chapter 17 of the _____ Edition of the International Building Code, as adopted and amended by the _____ Edition of the Virginia Uniform Statewide Building Code (VUSBC). The purpose of our site visit was to review the proposed perimeter cast in place concrete strip and spread footings and their reinforcing, which was to be installed in accordance with the Structural Engineer of Record's (SER) specifications and approved construction documents for the building.

Items of Discussion:

Item No. 1 – Perimeter Strip Footing of Proposed Right Elevation Bathrooms

We noted that the strip footing along grid line 4 (from column line B.7 to C.2), along column line C.2 (from grid line 4 to 3, including the 4'-0" job West of column line C.2), and along grid line 3 (from column line B.7 to approximately 4'-0" North of column line C.2) had been excavated approximately 2'-0" wide with a total excavation depth of approximately 2'-0" to 3'-0" below the existing exterior finish grade (specified as 2'-0" wide with a total excavation depth of approximately 2'-0" to 3'-0" below the existing exterior finish grade (specified as 2'-0" wide footing in Section A and B on Sheet S2 with a top of footing elevation of 2'-0" below the finish floor elevation). We also noted that the strip footing was to be 1'-0" thick as determined by the top edge of the previously placed concrete footing near column/grid 2/C (specified as 1'-0" thick in sections A and B on Sheet S2). Discussion with the General contractor revealed that the concrete subcontractor was planning to utilize a laser level to more accurately determine the top of the footing elevation as the concrete was placed.

Our review also revealed two (2) continuous #5 bars in the bottom of the footing with #5 transverse bars at 32" on center (specified as two (2) #5 bars continuous with #5 transverse bars at 32" on center in Sections A and B on Sheet S2). Closer review also revealed two (2) #5 reinforcing bars had been drilled and epoxied into the existing footing at column/grid line B.7/4, without inspection (specified as drill and grout two (2) #5 x 18" long into ex. Footing in the Foundation Plan on Sheet S2). We noted that while these two (2) #5 dowels lapped the horizontal bars a minimum

of 40", it was not possible to review the depth of embedment. Further, our review revealed that all horizontal footing reinforcing laps measured between 24" and 36" in length (specified as minimum 30 bar diameters (30 x 5/8" = ± 20") in the construction drawing specifications on Sheet SP10).

We also noted that the strip footing along column line C.2 turned 90° (approximately 12'-0" West of grid line 4, approximately 9'-0" East of grid line 2, and again approximately 4'-0" to the North of those two (2) initial 90° turns to form the bump out in the middle of the right elevation wall) additional #5 corner reinforcing bars had been placed at the intersection as specified in Typical Reinforcing for Footing Corner detail on Sheet S1. Closer review revealed that the corner bars located in these 90° turns in the strip footing, consisted of "L" shaped bars with 30" legs tied to and lapping the horizontal footing reinforcing over their full length (specified as 2'-6" typical bar lap for corner bars in the Typical Reinforcing for Footing Corner Detail on Sheet S1).

We also noted that all strip footing reinforcing bars were supported on concrete blocks providing at least 3" of cover from the bottom of the footing trench were located within the trench to provide at least 3" of cover from the sides of the excavation (specified as 3" clear in Sections A and B on Sheet S2).

Item No. 2 – Perimeter Strip Footing

We reviewed the Perimeter Strip footing for the rear elevation lobby entry area of the proposed structure beginning at column/grid line A.7/3 and continuing along column line A.7 in a westerly direction for approximately 8'-6". The strip footing the turned 90° to the North and continued approximately 8'-6" to the column line A.0 before turning 90° west and terminating at a timber formed footing step onto the previously placed concrete footing approximately 11'-7" West of the rear elevation wall of the existing theater building.

We noted that the strip footing reviewed had been excavated approximately 2'-0" wide with a total excavation depth ranging from approximately 2'-0" to 3'-0" below the existing exterior finish grade (specified as 2'-0" wide footing in Sections A and B on Sheet S2 with a top of footing elevation of 2'-0" below the finish floor elevation). We noted 2'-0" tall 2' x 4" plywood formwork for the top of the portion of a footing step approximately 11'-7" West of grid line 3 (specified as 2'-0" footing step in the Foundation Plan on Sheet S2). We also noted that the strip footing was to be 1'-0" thick as determined by the marks on formwork at the footing step (specified as 1'-0" thick in Section A on Sheet S2). Discussion with the General Contractor revealed that the concrete subcontractor was planning to utilize a laser level to more accurately determine the top of the footing elevation during the pour.

Our review also revealed two (2) continuous #5 bars in the bottom of the footing with #5 transverse bars at 32" on center (specified as two (2) #5 bars continuous with #5 transverse bars at 32" on center in Sections A and B on Sheet S2). Closer review also revealed two (2) #5 reinforcing bars had also been drilled and epoxied into the existing footing at column/grid line A.7/3 without inspection (specified as drill and grout two (2) #5 x 18" long into ex. Footing in the Foundation Plan on Sheet S2). We noted that while these two (2) #5 dowels lapped the horizontal bars a minimum of 40", it was not possible to review the depth of embedment. Additionally, we noted that #5 Z-bars had been previously installed at the footing step and extended up into the proposed footing. These existing Z-bars lapped the continuous horizontal #5 bars at the footing step with 2'-6" laps at each continuous bar (specified as #5 Z-bars with 1'-6" laps at each continuous bar in Typical Stepped footing detail on Sheet S1).

We also noted that where the strip footing along column line A.7 and A.9 turned 90° toward each other, approximately 8'-6" West of grid line 3, additional #5 corner reinforcing bars had been placed at the intersections as specified in typical reinforcing for corner detail on Sheet S1. Closer review revealed that the corner bars located in these 90° turns in the strip footing, consisted of "L" shaped bars with 30" legs tied to and lapping the horizontal footing reinforcing over their full length (specified as 2'-6" typical bar lap for corner bars in the Typical Reinforcing for Footing Corners Detail on Sheet S1).

We also noted that all strip footing reinforcing bars were supported on concrete providing at least 3" of cover from the bottom of the footing trench and were located within the trench to provide at least 3" of cover from the sides of the excavation (specified as 3" clear in Sections A and B on Sheet S2).

Our review also revealed two (2) continuous #5 bars in the bottom of the footing with #5 transverse bars at 32" on center (specified as two (2) #5 bars continuous with #5 transverse bars at 32" on center in Sections A and B on Sheet S2). Further, our review revealed that all horizontal footing reinforcing laps measured between 24" and 36" in length (specified as minimum 30 bar diameters ($30 \times 5/8" = \pm 20"$) in the construction drawing specifications on Sheet SP10).

We also noted that where the strip footing along the column line C.2 turned 90° (approximately 12'-0" West of grid line 4, travelling 4'-0" North before turning to the West, traveling 13'-8" before turning South, and travelling 4'-0" before turning West again along column line C.2) additional #5 corner reinforcing bars had been placed at that the intersection as specified in Typical Reinforcing for Footing Corner detail on Sheet S1. Closer review revealed that the corner bars located in these 90° turns in the strip footing, consisted of "L" shaped bars with 30" legs tied to and lapping the horizontal footing reinforcing over their full length (specified as 2-6 typical bar lap for corner bars in the Typical Reinforcing for Footing Corner Detail on Sheet S1).

Item No. 3 – Spread Footings

As part of our site visit, we also reviewed the two (2) proposed spread footings at column/grids A. 9/3 and B/3. We noted that the proposed spread column footing at column/grid A.9/3 had been excavated approximately 23" wide and 5'-0" long (specified as 1'-0" x 5' x 0" in Section K on Sketch SK-S3 dated 2/10/11). Discussions with the General Contractor revealed that the over excavation of the footing was due to the use of mechanical excavation which necessitated the wider cut. Closer review revealed that additional #5 reinforcing bar length and transverse bars were added to compensate for this as specified by prior discussion with the SER. The proposed depth of the concrete placement was to be 2'-0" as denoted by a spray paint mark on the side of the existing concrete footing (specified) as 2'-0" in Section K on Sketch SK-S3 dated 2/10/11). We noted that ten (10) #5 dowels x 21" in length with five (5) dowels in the upper layer and five (5) dowels in the lower layer had been installed using epoxy into holes into the face of the existing slab turndown located at approximately 12" on center without inspection. We noted that while these #5 dowels had ample length out from the face of the concrete footing, it was not possible to review the depth of embedment.

We also noted that the proposed column spread footing at column/grid B/3 had been formed 11" wide and 36" long with timber framing on top of the previously placed concrete strip footing along column line B (specified as 10" x 36" in Section DD on Sketch SK-S2 dated 2/10/11). The proposed depth of the concrete placement was to be 1'-4" as denoted by a spray paint mark on the side of existing concrete footing (specified as 1'-4" in Section DD on Sketch SK-S2 dated 2/10/11). We noted that three (3) L-shaped epoxy dowels had been installed using epoxy into holes into the face of the existing slab turndown located approximately 9" east of column/grid line B/2 along column line B, at approximately 12" on center. These dowels and their transverse bars had been installed and reviewed as part of our prior site visit on March 4, 2011 and detailed in Field Report No. 2.

Item No. 4 – Strip Footings for Right Rear Corner Stairwell

During our site visit, we noted that excavations had not been made, nor reinforcing installed to place concrete for the proposed right rear corner stairwell footing. Discussions with the General Contractor reviewed that this footing was to be placed later as it currently would impact the silt fence erected along the west edge of the building pad. We noted to both the General Contractor and the SER that no reinforcing had been placed during the prior concrete footing placement on March 4, 2011 to tie the intersecting footings together as specified in the Typical Reinforcing for Footing Corner Detail on Sheet S1. Further discussions with the SER revealed that it would be acceptable to drill and epoxy #5 dowels into the previously placed footing with a minimum embedment depth of 8" and a minimum lap length of 2'-6" once the footing is excavated and the reinforcing placed. A subsequent detail for this attachment will be forthcoming.

Item No. 5 – Concrete Pour

Placement of Concrete for the proposed strip and spread footings reviewed is scheduled for A Concrete Observation and Testing Report provided by _____ will be forwarded once it is received by our office.

Attached to this report are the following:

1. Summary of activity requiring special inspections for this period.
2. Log of Discrepancies Not Resolved at the Time of this Report

The undersigned states the above inspections and referenced documents have been reviewed and based upon and my observation of the work, I certify to the best of my knowledge and belief that the project and the building elements subject to this special inspection have been found to be in compliance with the approved documents and in conformance with project specifications. Violations of the Virginia Uniform Statewide Building Code observed in the conduct of special inspections were brought to the attention of the University Building Official and the owner for resolution and the resolution was approved.

(Attach continuation sheets as required to complete the description of corrections.)

Respectfully submitted,

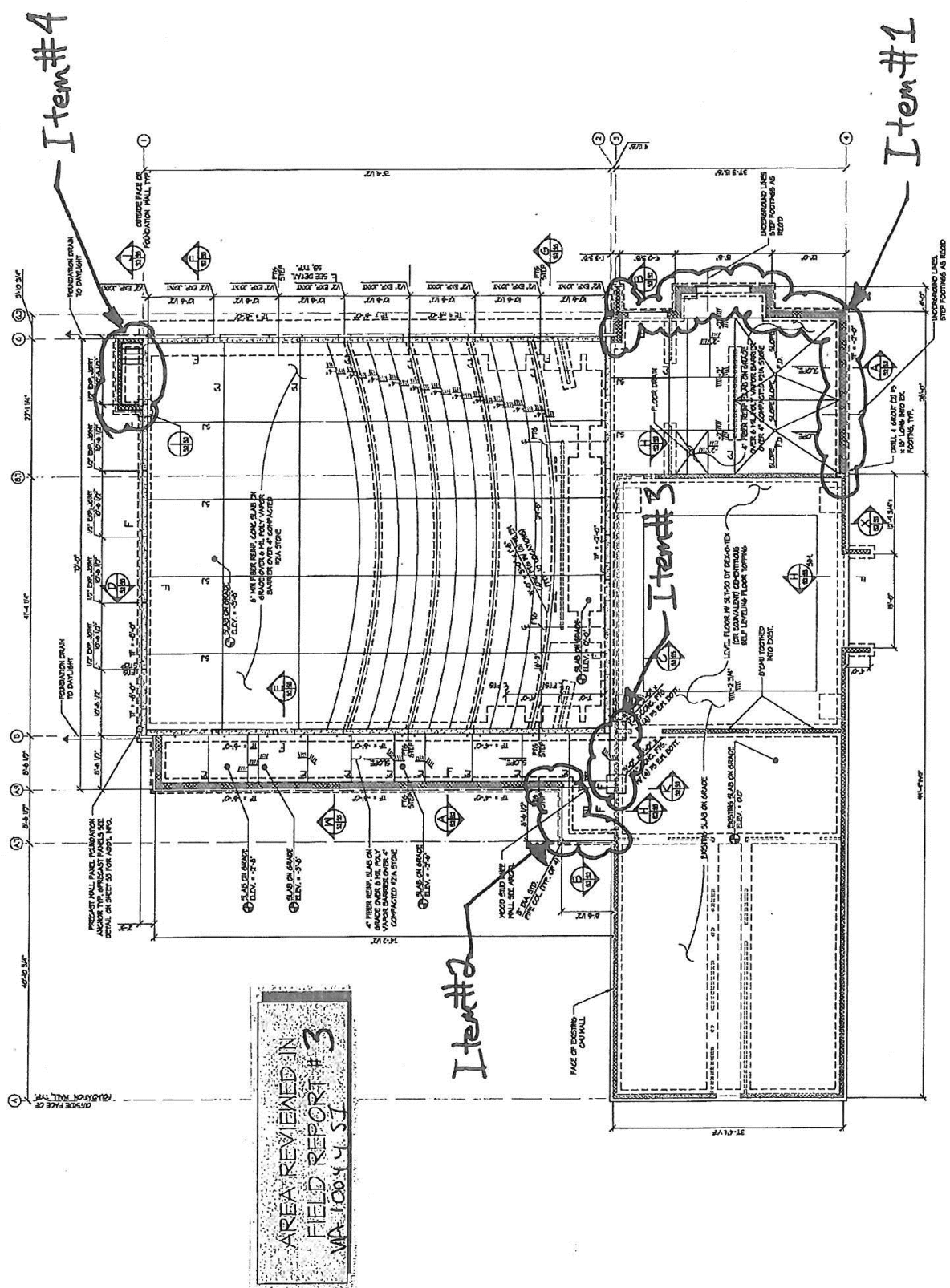
Special Inspector

Type or print name

Signature

Date





AREA REVIEWED IN
FIELD REPORT #3
VA 100.4.4.51

FOUNDATION PLAN
SCALE 1/8" = 1'-0"

INTERIM REPORT OF SPECIAL INSPECTION

Field Report No. 3

To: _____ Job No.: _____
_____ Date: _____ Time: _____
_____ Project: _____
_____ Location: _____
_____ Owner: _____
_____ Weather: _____ Temp: _____
_____ Present at: _____
_____ Meeting: _____
Building: _____
Permit No.: _____

Architect of Record: _____

Structural Engineer of Record: _____

Reg. Design Professional in Responsible Charge: _____

General

At the request of the General Contractor, _____ we provided a site visit on afternoon, _____ to review the finishing work on the rearmost portion of the concrete slab on grade being installed at the _____. Our review was performed in conformance with the Special Inspections requirements noted in Chapter 17 of the _____ Edition of the International Building Code (VUSBC). The purpose of our site visit was to review the saw cuts and curing agent to be placed on the slab on grade, which was to be constructed in accordance with the Structural Engineer of Record's (SER) specifications and approved construction documents for the building.

Items of Discussion

Item No. 1 – Concrete Slab on Grade

We reviewed the rearmost section of the proposed theater slab on grade between the rear elevation precast concrete wall and the first proposed construction joint. During our site visit, we noted that saw cut operations were underway with the rightmost two (2) front-to-rear cuts in place and the front most left to right cut in the process of being installed. We noted that concrete placement operations began at 5:30 am that morning and were completed approximately 8:30 AM that morning. We noted that concrete finishing took place between 8:30 Am and 4:00 PM with saw cutting beginning thereafter, approximately 7 ½ hours following completion of the slab placement (specified as saw cutting control joints shall be performed as soon as the concrete slab on grade is hard enough to support the cutting machine within the first four hours of curing in General Note #29 on Sheet S1). Discussions with the SER revealed that future site visits should include follow-up observations of this section of the slab to monitor it for cracking over the next 4-6 weeks. Any cracks noted should be brought to his attention for remedial action.

Item No. 2 – Concrete Curing Agent

Placement of the concrete curing agent for the previously placed slab on grade concrete was scheduled to begin following the saw cut operation but had not taken place prior to our departure from the site. While on site we noted that spray applied curing agent and spray applicator were present on site. Discussions with the GC following our departure revealed that the curing agent had been applied over the slab section during the evening of Tuesday, April 19, 2011.

We have included a drawing delineating the extent of review for Field Report No. 10 on April 19, 2011.

Photographs were taken.

Attached to this report are the following:

1. Summary of activity requiring special inspections for this period.
2. Log of Discrepancies Not Resolved at the Time of this Report

The undersigned states the above inspections and referenced documents have been reviewed and based upon and my observation of the work, I certify to the best of my knowledge and belief that the project and the building elements subject to this special inspection have been found to be in compliance with the approved documents and in conformance with project specifications. Violations of the Virginia Uniform Statewide Building Code observed in the conduct of special inspections were brought to the attention of the University Building Official and the owner for resolution and the resolution was approved.

(Attach continuation sheets as required to complete the description of corrections.)

Respectfully submitted,

Special Inspector

Type or print name

Signature

Date

Licensed Professional Seal

Building Permit Number: _____

FINAL REPORT OF SPECIAL INSPECTIONS

2012 VUSBC Edition

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. Attached to this final report are the Certificates of Compliance for shop fabricated load bearing members and assemblies and the deficiency log noted all resolutions. *(Include or edit this statement as required).*

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

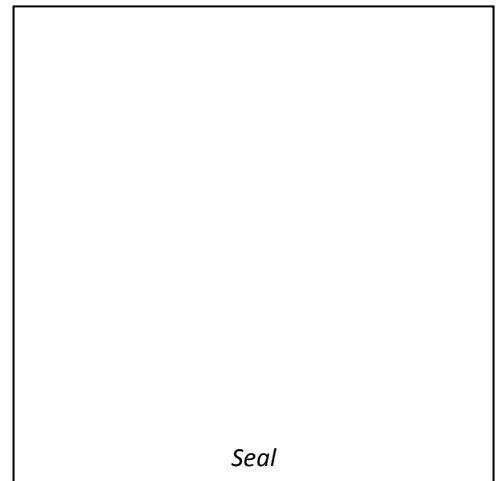
Interim reports submitted prior to this final report, and numbered _____ to _____, form a basis for, and are to be considered an integral part of this final report.

Respectfully submitted,

Signature of Special Inspector

Date

Type or Print Name (Agent 1)



STATEMENT OF SPECIAL INSPECTIONS Contractor's Statement of Responsibility

Each contractor responsible for the construction or fabrication of a system or component designated in the Quality Assurance Plan must submit a Statement of Responsibility.

Project: _____

Contractor's Name: _____

Address: _____

License Number: _____

Description of designated building systems and components included in the Statement of Responsibility:

Contractor's Acknowledgment of Special Requirements

I hereby acknowledge that I have received, read and understand the Quality Assurance Plan and Special Inspection program.

I hereby acknowledge that control will be exercised to obtain conformance with the construction documents approved by the Building Commissioner.

Signature

Date

Contractor's Provisions for Quality Control

Procedures for exercising control within the contractor's organization, the method and frequency of reporting and the distribution of reports are attached to this Statement.

Identification and qualifications of person (s) exercising such control and their positions in the organization are attached to this Statement.

STATEMENT OF SPECIAL INSPECTIONS Fabricator's Certificate of Compliance

Each approved fabricator that is exempt from Special Inspection of shop fabrication and implementation procedures per section 1704.2 of the International Building Code must submit a Fabricator's Certificate of Compliance at the completion of fabrication.

Project: _____

Fabricator's Name: _____

Address: _____

Certification or Approval Agency: _____

Certification No.: _____

Date of Last Audit or Approval: _____

Description of structural members and assemblies that have not been fabricated.

I hereby certify that item described above were fabricated in strict accordance with the approved construction documents.

Signature

Date

Title

Attach copies of fabricator's certification or building code evaluation service report and fabricator's quality control manual.

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