

# SPECIAL INSPECTIONS

AGENCIES AND INSPECTORS

May 2019



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**ACCREDITED**



# Special Inspections

## Agencies and Inspectors

*The purpose of this document is to outline the standards for persons or agencies who perform special inspections on construction and demolition sites in Philadelphia as required by the Building Code. Inadequately trained special inspectors can jeopardize public health and safety. Special inspection agencies and special inspectors ensure that contractors comply with applicable industry codes and safety, therefore, the establishment of standards and qualifications for special inspection agencies and special inspectors are necessary to protect the public.*

**Note:** *Text in bold italic* reflects newly-added sections.

### DEFINITIONS

The following definitions are important for the proper use of this document.

**Approved Construction Documents.** Any and all documents that set forth the location and entire nature and extent of construction work proposed with sufficient clarity and detail to show that the proposed work conforms to the provisions of this code and other applicable laws. Such documents will include but not be limited to shop drawings, specifications, manufacturer's instructions and standards that have been accepted by the design professional of record or such other design professional retained by the owner for this purpose.

**Materials.** Materials, assemblies, appliances, equipment, devices, systems, products and methods of construction regulated in their use by the Building Code.

**Registered Design Professional of Record.** The Pennsylvania licensed and registered architect (RA) or a Pennsylvania licensed and registered professional engineer (PE) who prepared or supervised the preparation of applicable construction documents filed with the department.

**Relevant Experience.** Direct participation and practice related to the underlying construction or demolition activities that are the subject of the special inspection where such participation has led to accumulation of knowledge and skill required for the proper execution of such inspection.

**Special Inspection.** Inspection of selected materials, equipment, installation, methods of construction, fabrication, erection or placement of components and connections, to ensure compliance with approved construction documents and referenced standards as required by Chapter 17 of the Building Code or elsewhere in the code or its referenced standards.

**Special Inspection Agency.** An approved inspection agency employing one (1) or more persons who are special inspectors and that has met all requirements of this Section.



**Special Inspector.** An individual employed by a special inspection agency, who has the required qualifications set forth in this Section to perform or witness the special inspections required by the code or by regulation, including but not limited to a qualified registered design professional.

**Supervise/Supervision.** The oversight and responsible control by a registered design professional having the necessary qualifications and relevant experience to perform responsibilities associated with the special inspection. Such supervision shall include ensuring training and/or education necessary to qualify the special inspector for his or her duties, including continued training and education necessary to keep pace with developing technology.

## **REGISTRATION OF SPECIAL INSPECTION AGENCIES AND INSPECTORS**

All agencies performing special inspections must be registered with the department as a special inspection agency for each of the special inspection categories with respect to which the agency intends to perform special inspections. Individuals performing special inspections on behalf of agencies must be registered for, and must hold and maintain the qualifications associated with, each category with respect to which the individual performs special inspections.

Special inspections of in-plant fabrication of structural members used in construction within Philadelphia shall be conducted by registered Special Inspection Agencies and Special Inspectors.

Exceptions:

- a. The fabricator obtains approval from the Department pursuant to Chapter 17 of the Building Code; or
- b. The fabricator is accredited by International Accreditation Services (IAS) under its Fabricator Inspection Accreditation Program and a current certificate of accreditation indicating the scope of fabrication accreditation is issued by IAS and is posted on the IAS website.

***Special inspections of commercial modular buildings or components must be inspected by an agency currently contracted by the Pennsylvania Department of Community and Economic Development performing duties under the Industrialized Housing Act. Agencies performing inspection services must have a current implementing contract with the manufacturer as prescribed in the Pennsylvania Industrialized Housing Act.***

An application for registration must be submitted to the Department and must provide such information as the Department may require.

Fees for registration of special inspection entities are as follows:

- Special Inspection Agencies \$200
- Special Inspectors \$50 per category (maximum fee \$200 in a three-year period)

Once approved, special inspection agency and special inspector registrations are valid for a period of three (3) years.



## AGENCY REQUIREMENTS

1. **Experience.** An agency must submit documentation that it employs one or more special inspectors registered within the area of expertise for which the agency seeks to be registered.  
**Note: Exception for Accredited Agencies.** An agency meeting one or more of the following accreditation standards shall not be required to comply with these experience requirements:
  - a. The agency maintains current accreditation as a special inspection agency by the International Accreditation Service (IAS) in that registration area; or
  - b. The agency maintains current accreditation from an established accreditation entity as a special inspection agency in accordance with ASTM E329, Standard Specification for Agencies Engaged in Construction Inspection and/or Testing; or
  - c. The agency maintains current accreditation from an established accreditation entity in accordance with the International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) 17020, The General Criteria for the Operation of Various Types of Bodies Performing Inspection.
2. **Insurance.** All special inspection agencies must have the following insurance coverage:
  - a. Professional liability/errors and omissions insurance policy for the minimum amount of five hundred thousand dollars (\$500,000.00), claim-based, for the term of the registration.
  - b. Insurance required by the provisions of the Pennsylvania Workers' Compensation laws.
3. **Agency Structure.** A special inspection agency must have at least one primary operational manager who is a registered design professional or a registered special inspector and all special inspections must be performed under that person's direct supervision. Such person must not be retained by any other agency that provides special inspection or testing services, must possess relevant experience in the inspection and testing industry and hold a management position in the agency. A supplemental inspector who performs special inspection work must do so under the direct supervision of a primary inspector.
4. **Prohibition.** No person shall perform special inspection work in any of the special inspection categories set forth in this section unless they are registered under Section 9-1306 of the Code.
5. **Engineers and Geologists-in-Training.** An engineer-in-training or geologist-in-training who performs special inspection work must be under the direct supervision of an engineer registered to perform special inspection work in the relevant special inspection category.



## DUTIES OF SPECIAL INSPECTION AGENCIES AND INSPECTORS

All special inspection agencies must ensure that the special inspectors employed by the agency meet the qualification requirements and perform special inspections only within the area of expertise for which such special inspectors are qualified.

Special Inspection Agencies and their Inspectors are required to meet certain responsibilities.

1. **Availability and Compliance.** A special inspector and/or special inspection agency shall have responsibilities as set forth in Chapter 17 of the Building Code and elsewhere in the Codes where special inspections are required.
2. **Obligation to Avoid Conflicts of Interest.** A special inspector and/or a special inspection agency must not engage in any activities that may conflict with their objective judgment and integrity, including but not limited to having a financial and/or other interest in the construction, installation, manufacture or maintenance of structures or components that they inspect. It is not, in and of itself, a conflict of interest for a registered design professional of record to perform a special inspection on the project he or she designed.
3. **Approved Construction Documents.** The special inspector and/or special inspection agency shall:
  - a. Examine all approved construction documents that relate to the work that is the subject of the special inspections.
  - b. Confirm that the documents are sufficient to enable the proper performance of the special inspection.
  - c. Confirm that the documents are acceptable to the registered design professional of record or another design professional who prepared the documents for the construction of the job. Acceptance shall be demonstrated in writing by the design professional on the documents.
  - d. Confirm that the work that is the subject of the special inspection is in compliance with all relevant approved construction documents and with Chapter 17 of the Building Code and the remainder of Title 4.
4. **Reporting.** The special inspection agency shall report any discrepancies noted during the inspection to the contractor and when applicable to the superintendent of construction, as well as to the site safety coordinator or site safety manager, for correction. If the discrepancies are not corrected, the discrepancies shall be brought to the attention of the owner, and the registered design professional of record prior to the completion of that phase of the work. The special inspector/special inspection agency shall immediately report conditions noted as hazardous to life, safety or health, to the attention of the Department.
5. **Documentation.**
  - a. The supervisor shall review special inspection progress reports and final reports for conformance with the approved plans, specifications and workmanship provisions of Chapter 17 of the Building Code and the



- remainder of the Philadelphia Building and Occupancy Code. Such supervision and control shall be evidenced by the supervisor's signature and seal upon any required statements, applications and/or reports.
- b. The principal of the special inspection agency shall file with the department within ten (10) days of satisfactory completion of any special inspection, notice of such completion on the forms and in the manner required by the department.
  - c. A special inspection agency shall maintain records of special inspections on a job-by-job basis for at least seven (7) years and shall make such records available to the department upon request. Such records shall include field logs, test results, laboratory reports, notes, noted deficiencies and dates of cures of such deficiencies, photographs and such other information as may be appropriate to establish the sufficiency of the special inspection.
6. **Obligation to Cooperate with Inquiries.** All special inspectors and/or special inspection agencies shall cooperate in any investigation by the department, or other city or law enforcement agency, into the activities at any job site or fabricating/manufacturing facility for which they have been designated a special inspector or special inspection agency and shall provide prompt, accurate and complete responses to reasonable inquiries by the department and other appropriate agencies about the conduct of such business.
7. **Specific Duties.** For special inspections of sprayed fire-resistant materials, field applied thin film mastic and intumescent fire-resistant coatings:
- a. Special inspections of spray fireproofing shall be performed in accordance with AWCI Technical Manual 12-A.
  - b. Special inspections of field applied thin film mastic and intumescent fire-resistant coatings shall be performed in accordance with AWCI Technical Manual 12-B.

## INSPECTOR QUALIFICATIONS

Special inspectors must meet the relevant qualifications to be registered in a special inspection category. Those registered must hold and maintain the qualifications associated with the category for which they are registered.

To register, a person must demonstrate that:

1. The person meets one or more the qualifications set forth below;
2. The person provides documentation of competency in the relevant category equivalent to the competency that would be established by satisfaction of one or more of the applicable requirements below; or
3. The person demonstrates registration by another jurisdiction that registers special inspectors in the relevant category based upon qualifications determined by the Department to be equivalent to the applicable requirements below.



## **SPECIAL INSPECTION CATEGORIES**

Special inspection work in the following areas regulated by Chapters 17 and 33 of the Building Code requires registration. Engineers and/or Geologists-in-Training licensed with the State of Pennsylvania shall be under the direct supervision of the registered engineer for the specific field of inspection listed.

### ***Commercial Modular Buildings or Components.***

1. ***Inspectors shall be in possession of current PA Labor and Industry certifications in the following inspection categories:***
  - a. ***Building Inspector***
  - b. ***Energy Inspector***
  - c. ***Electrical Inspector***
  - d. ***Accessibility Inspector***
  - e. ***Mechanical Inspector***
  - f. ***Plumbing Inspector***
2. ***Professional engineer with a minimum of one-year experience inspecting commercial modular buildings or components.***

### **Deep Foundations and Helical Pile Foundations.**

1. Current National Institute for Certification in Engineering Technologies (NICET) Level II certificate in Geotechnical Engineering Technology/Construction;
2. Current NICET Level II soils certificate in Construction Materials Testing;
3. Federal Highway Administration – National Highway Institute Drilled Shafts Course;
4. Federal Highway Administration - National Highway Institute Course Certificates for “Drilled Shafts” and “Driven Pile Foundation Inspection,” with a minimum of one year of experience with deep foundations and helical pile foundations;
5. Professional Geologist or Professional Engineer licensed in the Commonwealth of Pennsylvania with a minimum of one year of such experience; or
6. Engineer-In-Training (EIT) or Geologist-in-Training (GIT) with a minimum of two years of such experience.

### **Demolition.**

1. Primary Inspector or Inspection Supervisor: Must be a professional engineer (Civil or Structural) and have a minimum of one-year relevant experience.
2. To be a Supplemental Inspector, must work under the direct supervision of a Primary Inspector or Inspection Supervisor and:
  - a. Must have completed a 30- hour program designed by the United States Occupational, Safety and Health Administration (“OSHA”) under its Outreach Training Program for the Construction Industry for additional



training of supervisors and workers and have a minimum of 3 (three) years of relevant experience; or

- b. Must have certification/ approval of completion of an OSHA course regarding 29 C.F.R. 1926 Subpart T - Demolition standards and applicable 29 C.F.R. 1910 standard and have a minimum of 3 (three) years of relevant experience.

### **Engineered Wood Product Fabrication.**

Professional Engineer with a minimum of experience with engineered wood product fabrication.

### **Exterior Insulation and Finish Systems (EIFS).**

1. Association of the Wall and Ceiling Industry (AWCI) EIFS Inspector Certificate;
2. Architect registered with the Commonwealth of Pennsylvania with a minimum of one year of experience with exterior insulation and finish systems;
3. Professional engineer with a minimum of one year of such experience; or
4. Engineer-In-Training (EIT) with a minimum of two years of such experience.

### ***Fire Resistant Penetrations and Joints.***

1. ***Professional engineer with a minimum of one-year experience with inspecting fire-resistant penetrations and joints;***
2. ***Current Underwriters Laboratories (UL) Firestop Examination certification;***
3. ***Current Factor Mutual (FM) Firestop Examination;***
4. ***Current International Firestop Council (IFC) Third-Party Firestop Inspectors certification***

### **High-Strength Bolting and Steel Frame Installation Inspection.**

1. Current International Code Council (ICC) Structural Steel & Bolting Special Inspector certificate;
2. Professional Engineer with a minimum of one year of experience in high-strength bolting and steel frame installation; or
3. Engineer-In-Training (EIT) with a minimum of two years of such experience.

### **Pre-Cast Concrete Erection.**

1. Current Certified Welding Inspector [CWI] in accordance with the provisions of American Welding Society (AWS) QC1; or
2. Current International Code Council (ICC) S2 Structural Welding Inspector certificate.

Exception: To perform nondestructive testing, the special inspector must meet the requirements of the American Society for Nondestructive Testing (ASNT) Level III or Level II in accordance with SNT-TC-1A or must have completed the ASNT Central Certification Program.



### **Pre-Cast Concrete Fabrication.**

1. Current International Code Council (ICC) Reinforced Concrete certificate;
2. Pre-Cast/Pre-Stressed Concrete Institute (PCI) Quality Control Technician/Inspector Level II certificate; or
3. American Concrete Institute (ACI) Concrete Field Testing Technician – Grade 1 Certification.

### **Pre-Stressed Concrete.**

1. International Code Council (ICC) Pre-Stressed Concrete Certificate;
2. Pre-Cast/Pre-Stressed Concrete Institute (PCI) Quality Control Technician/Inspector Level II certificate;
3. Professional Engineer with a minimum of one year of experience with pre-stressed concrete construction; or
4. Engineer-In-Training (EIT) with a minimum of two years of such experience.

### **Post-Installed Concrete Anchor Installation.**

1. American Concrete Institute/Concrete Reinforcing Steel Institute (ACI/CRSI) certificate for adhesive anchor installation;
2. Professional Engineer with a minimum of one year of experience with post-installed concrete anchor installation; or
3. Engineer-In-Training (EIT) with a minimum of two years of such experience.

### **Post Tension Slabs-on-Ground and Post Tension Concrete.**

1. Current Post-Tensioning Institute (PTI) Certification - Level 2;
2. Current International Code Council (ICC) Pre-stressed Concrete Special Inspector certificate;
3. Professional Engineer with a minimum of one year of experience with post tension slabs-on-ground and post tension concrete construction; or
4. Engineer-In-Training (EIT) with a minimum of two years of such experience.

### **Reinforced Concrete.**

1. Current International Code Council (ICC) Reinforced Concrete Special Inspector certificate;
2. American Concrete Institute (ACI) Certified Concrete Construction Special Inspector;
3. Professional Engineer with a minimum of one year of experience with reinforced concrete construction; or
4. Engineer-In-Training (EIT) with a minimum of two years of such experience.

### ***Smoke Control Systems – Primary Inspector.***

1. ***Professional Engineer with a minimum of one year of experience with smoke control systems.***



### **Smoke Control Systems – Supplemental Inspector.**

1. Certification as an air balancer from one of the following:
  - a. Associated Air Balance Council (AABC); or
  - b. Testing & Balancing Bureau (TABB); or
  - c. National Environmental Balancing Bureau (NEBB); or
  - d. National Balancing Council (NBI).

### **Soils – Existing Site Soil Conditions, Fill Placement and Load-bearing Capacity of Soils.**

1. Current National Institute for Certification in Engineering Technologies (NICET) Level II certification in Geotechnical Engineering Technology/Construction;
2. Current NICET Level II soils certificate in Construction Materials Testing;
3. Current International Code Council (ICC) Soils Special Inspector certificate;
4. Professional Geologist or Professional Engineer licensed in the Commonwealth of Pennsylvania with a minimum of one year of experience with existing soil conditions, fill placement and load-bearing capacity of soils; or
5. Engineer-In-Training (EIT) or Geologist-in-Training (GIT) with a minimum of two years of such experience.

### **Sprayed Fire-Resistant Materials and Mastic and Intumescent Fire-Resistant Coatings.**

1. Current International Code Council (ICC) Spray-Applied Fire Proofing certificate;
2. Architect registered with the Commonwealth of Pennsylvania with a minimum of one year of experience with sprayed fire-resistant materials and intumescent fire-resistant coatings;
3. Professional engineer with a minimum of one year of such experience; or
4. Engineer-In-Training (EIT) with a minimum of one year of such experience.

### **Structural and Non-Structural Seismic Resistance.**

1. Professional Engineer with a minimum of one year of experience with structural and non-structural seismic resistance; or
2. Engineer-In-Training (EIT) with a minimum of two years of such experience.

### **Structural Masonry.**

1. Current International Code Council (ICC) Structural Masonry certificate;
2. Professional Engineer with a minimum of one year of experience with structural masonry; or
3. Engineer-In-Training (EIT) with a minimum of two years of such experience.



### **Structural Steel Fabrication.**

1. Current Certified Welding Inspector (CWI) in accordance with the provisions of American Welding Society (AWS) QC<sub>1</sub>; or
2. Current International Code Council (ICC) S<sub>1</sub> or S<sub>2</sub> Structural Welding Inspector.

Exception: To perform nondestructive testing, the special inspector must meet the requirements of the American Society for Nondestructive Testing (ASNT) Level III or Level II certification in accordance with SNT-TC-1A or ASNT Central Certification Program.

### **Test Safe Loads, In-Situ Load Tests and Preconstruction Load Tests.**

Professional Engineer with a minimum of one year of experience with test safe loads, in-situ load tests and preconstruction load tests.

### **Underpinning.**

1. Primary Inspector or Inspection Supervisor: Must be a professional engineer (Civil or Structural) and have a minimum of one year relevant experience.
2. To be a Supplemental Inspector, working under the direct supervision of an Inspection Supervisor, must have a Bachelor's Degree in Civil or Structural Engineering from an accredited institution or an equivalent degree and a minimum of two years of relevant experience.

### **Welding.**

1. Current Certified Welding Inspector (CWI) in accordance with the provisions of American Welding Society (AWS) QC<sub>1</sub>;
2. Current American Welding Society (AWS) Senior Certified Welding Inspector (SCWI); or
3. Current Certified International Code Council (ICC) S<sub>2</sub> Structural Welding Inspector.

Exception: To perform nondestructive testing, the special inspector must meet the requirements of the American Society for Nondestructive Testing (ASNT) Level III or Level II in accordance with SNT-TC-1A or must have completed the ASNT Central Certification Program.

### **Wood Construction.**

1. Professional Engineer with a minimum of one year of experience with wood construction; or
2. Engineer-In-Training (EIT) with a minimum of two years of such experience.

**CITY OF PHILADELPHIA**  
**DEPARTMENT OF LICENSES AND INSPECTIONS**

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