

BENSALEM TOWNSHIP

Building and Planning Department
Office 215-633-3644 • Fax 215-633-3753

Matthew K. Takita

Director of Building and Planning
2400 Byberry Road • Bensalem, PA 19020

SPECIAL INSPECTIONS, OBSERVATIONS AND TESTING GUIDELINES.

SUBJECT: Minimum Qualifications for Special Inspectors and Testing Technicians

1.0 Purpose: This guideline sets forth minimum qualification and experience requirements for special inspectors and testing technicians. Also included in this technical guideline are procedures for obtaining Bensalem Township building department approval for special inspectors and testing technicians.

2.0 Scope: The approval process and minimum requirements are for both graduate engineers and technical personnel. The engineers shall be evaluated separately, depending upon their professional status.

3.0 Abbreviations and Acronyms:

AABC: Associated Air Balance Council

ACI: American Concrete Institute

CWI: Certified Welding Inspector

BOCA: Building Officials and Code Administrators International, Inc.

ISA: Instrument Society of America

NAARSO: National Association of Amusement Ride Safety Officials

NDT: Nondestructive Testing

NICET: National Institute for Certification in Engineering Technologies

NEBB: National Environmental Balancing Bureau

PCI: Prestressed Concrete Institute

QAA: Quality Assurance Agency

QC: Quality Control

TG: Technical Guidelines

4.0 Definitions:

Quality Control: A managerial process that consists of the following steps:

1. Evaluate actual quality performance;
2. Compare actual performance to quality goals; and
3. Take action on the difference.

Quality Assurance: An independent evaluation of quality-related performance, conducted primarily for the information of those not directly involved in conduct of operations but who have a need to know.

5.0 References:

Pennsylvania Uniform Construction Code, Act 45

6.0 Responsibilities:

6.1 The department will review requests made by agencies in accordance with this document. An individual special inspector and testing technician with certification and experience may be approved unless sufficient justification exists not to approve the special inspector and/or the testing technician in the areas requested.

6.2 The QAA will maintain copies of certifications and work histories, as long as the special inspector is employed by an agency approved by the department

7.0 Procedure: The following minimum criteria will be used to evaluate special inspection/testing technician requests.

7.1 Reinforced concrete: ACI Grade I or ACI Grade II. In addition, documented experience according to one of the following:

- a. Inspector: Two-years experience
- b. Graduate engineer: One-year experience
- c. *Professional engineer: One-year experience

7.2 Special moment-resisting concrete frame: ACI Grade I or ACI Grade II. In addition, documented experience according to one of the following:

- a. Inspector: Two-years experience
- b. Graduate engineer: One-year experience
- c. *Professional engineer: One-year experience

7.3 Prestressed concrete: ACI Grade I, or certified as an ACI Grade II, or a PCI Level II. In addition, documented experience according to one of the following:

- a. Inspector: Two-years experience
- b. Graduate engineer: One-year experience
- c. *Professional engineer: One-year experience

7.4 Post tension slab on grade: ACI Grade I. In addition, documented experience according to one of the following:

- a. Inspector: Two-years experience
- b. Graduate engineer: One-year experience
- c. *Professional engineer: One-year experience

7.5 Structural welding: ICC,AWS Structural steel and welding certificate. In addition, documented experience according to one of the following:

- a. Inspector: Two-years experience
- b. Graduate engineer: One-year experience
- c. *Professional engineer: One-year experience

7.6 High strength bolting: Current ICC, AWS structural steel and welding certificate(s). In addition, documented experience according to one of the following:

- a. Inspector: Two-years experience
- b. Graduate engineer: One-year experience
- c. *Professional engineer: One-year experience

7.7 Structural masonry: ICC structural masonry certificate . In addition, documented experience according to one of the following:

- a. Inspector: Two-years experience
- b. Graduate engineer: One-year experience
- c. *Professional engineer: One-year experience

7.8 Reinforced gypsum concrete: ICC Reinforced concrete certificate and ACI Grade I or ACI Grade II. In addition, documented experience according to one of the following:

- a. Inspector: Two-years experience
- b. Graduate engineer: One-year experience
- c. *Professional engineer: One-year experience

7.9 Insulated concrete fill:

ICC Reinforced concrete certificate and ACI Grade I or ACI Grade II. In addition, documented experience according to one of the following:

- a. Inspector: Two-years experience
- b. Graduate engineer: One-year experience
- c. *Professional engineer: One-year experience

7.10 Spray-applied fireproofing: ICC Spray-applied fireproofing certificate . In addition, documented experience according to one of the following:

- a. Inspector: Two-years experience
- b. Graduate engineer: One-year experience
- c. *Professional engineer: One-year experience

7.11 Piling, drilled piers. caissons: NICET Level III certification in geotechnical/construction or construction material in testing/soil:

- a. Inspector: NICET Level III
- b. **Graduate geologist: Two-years experience
- c. **Graduate engineer: Two-years experience
- d. *Professional engineer: One-year experience

7.12 Shotcrete: ICC Reinforced concrete certificate and ACI Grade I or ACI Grade II. In addition, documented experience according to one of the following:

- a. Inspector: Two-years experience
- b. Graduate engineer: One-year experience
- c. *Professional engineer: One-year experience

7.13 Special grading, excavation and filling: NICET level II certification in geotechnical/construction or construction material testing/soil:

- a. Inspector: NICET Level III
- b. **Graduate geologist: Two-years experience
- c. **Graduate engineer: Two-years experience
- d. *Professional engineer: One-year experience

7.14 Smoke control systems: Documented experience according to one of the following:

- a. Inspector: NICET, I9A, AABC, NEBB
- b. **Graduate engineer: Two-years experience
- c. *Professional engineer: One-year experience
Electrical
Fire Protection
Mechanical

7.15 Special Cases: Approvals are granted on a case-by-case basis with the minimum experience for a given application as shown:

- a. Inspector: Four-years experience
- b. Graduate engineer: Two-years experience
- c. Professional engineer: Two-years experience

7.16 Nondestructive testing: Personnel shall be qualified in accordance with American Society of Nondestructive Testing (ASNT) document NT-TC-1A. Level II certification as determined by a Level III examiner is required for each element.

7.17 Material testing: NICET Level I or Level II certification with a minimum of one-year experience.

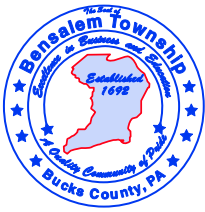
- a. Construction materials testing/concrete or ACI Level I
- b. Construction materials testing/concrete
- c. Construction materials testing/soil

8.0 Records: Certification records and work history of special inspection and testing technician personnel are maintained by the agency that employs the special inspector.

9.0 Attachments:

* Certification optional. The professional engineer shall hold a license in civil, structural, mechanical, fire protection or electrical engineering appropriated to the service provided.

** Certification optional.



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REPORT REQUIREMENTS

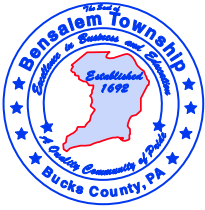
Reports: All report forms that are planned for use in performing quality assurance inspection, engineering and/or testing shall be submitted with the quality assurance manual for review and approval. Daily report forms should be preprinted by the inspection agency in a format that is acceptable to the Department. Minimum acceptable guidelines for format shall be as follows:

- Allow as much lined space on the form as possible.
- Preprinted titles should be kept to a minimum, e.g., project name, project address, job number, date, report number and inspector's name.
- Do not use preprinted headline material that presumes that the items listed below are going to be in compliance with the approved plans.
- Use the same Daily Report form format throughout each project. Do not use different Daily Report forms for different inspection functions.
- All spin-off documentation, such as nonconforming item reports, resolution of non-conforming item reports, testing and/or inspection results, etc., shall be referenced in the daily report with sufficient information to ensure traceability back to the daily report.

Final Report: The quality assurance agency shall submit a final signed report stating whether all work requiring special inspection was inspected, reported and found to be in substantial compliance with the approved plans, specifications and the **Uniform Construction Code**.

Final reports shall not be submitted to the Building and Planning Department until all non-compliances have been cleared or have been identified in the final report as being unresolved and accepted by the building official.

Final reports must be signed by the design professional in responsible charge. The final report certifies that all inspections, engineering and testing tasks required by the project were completed as required.



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Approval Review

- The approved agency shall be capable of certifying to the building official that components of off-site or on-site constructed and fabricated/manufactured products meet the Uniform Construction Code approved plans and project documents.
- Each special inspector identified as a member of the agency staff shall have proven experience in the inspection of items listed in Section **1704** of the **2009 International Building Code**. The Building and Planning Department will evaluate each individual inspector's qualifications and return a list of approved inspectors at the time of agency approval. All inspection personnel must be listed. Inspection personnel that are new to an agency must be evaluated, approved and listed by before being assigned to a project. This requirement applies to those inspectors who perform inspection services at the job site or for the purpose of evaluating fabricated/manufactured products away from the project.
- All structural steel and welding inspectors must be qualified by AW9 or, as appropriate, to the level required by the service performed. All AW9 certified associates must work under the direction of a certified AWS inspector. Welder certification and qualification testing must be performed by an AW9 certified welding inspector.
- Personnel performing nondestructive examination (NDE) shall be qualified for the NDE methods they will utilize in accordance with the agency's approved quality assurance manual.
- Testing technicians shall be certified to Ad, NICET or other special categories required by the approved plans.
- Engineers shall be licensed by the state of Pennsylvania in the area of expertise they will be providing skills, judgment and reports.
- Approved agencies must meet the requirements contained within ASNT recommended practices for nondestructive personnel qualification and certification, NT-TC-1A, supplements A through D on radiographic, magnetic particle, ultrasonic and liquid penetrant test methods, respectively. Only personnel qualified for NDT Level II may perform nondestructive inspections on welds or base material. Personnel presently qualified for NDT Level III may perform non-destructive tests, provided that they have previously been certified for NDT Level II.



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Tax Parcel No.:	
Permit No.:	
Date:	

Uniform Construction Code (UCC) SPECIAL INSPECTIONS AND OBSERVATIONS STATEMENT

This statement must accompany permit applications for all construction for which special inspections and observations are required.	
Project Name	
Project Address	
Owner	Telephone No.

This is to certify that all the inspections and observations that I have checked on pages 2-3 and on page 4 of this statement are required for the project named above and will be performed by the design individuals or firms. By signing this statement, I also acknowledge that:

- These inspections and observations must be performed by competent individuals in accordance with the Uniform Construction Code and that the construction work must comply with the Department-approved plans and specifications and all applicable provisions of the Uniform Construction Code.
- Records of all required special instructions and testing observations (including any discrepancies and methods of correction of these discrepancies) will be retained and made available to Department representatives, upon request, and:
- The Final Report section of this statement must be signed by me and a copy of this statement submitted to the Department inspector at the time that the final inspection is performed and before a certificate of occupancy is issued.

Name of Design Professional in Responsible Charge

Signature of Design Professional in Responsible Charge

PA License Number Date Signed (M/D/Y)

PLEASE AFFIX SEAL IN SPACE TO THE LEFT



Bensalem Township Application
Special Instructions and Observations Statement

Page 2 of 4

Tax Parcel No.:	
Permit No.:	
Date:	

CHECK EACH THAT APPLIES	TYPE OF SPECIAL INSPECTION OR OBSERVATION	NAME AND ADDRESS OF INDIVIDUAL AND/OR FIRM PERFORMING INSPECTION OR OBSERVATION	CREDENTIALS Each acronym from page 4. If "Other" please specify special training or basis for competency to perform work.
<input type="checkbox"/>	Inspection of Fabricators		
<input type="checkbox"/>	Inspection of Steel Construction		
<input type="checkbox"/>	Inspection of Concrete Construction		
<input type="checkbox"/>	Inspection of Masonry Construction		
<input type="checkbox"/>	Inspection of Wood Construction		
<input type="checkbox"/>	Inspection of Soil Conditions		



Bensalem Township Application
Special Instructions and Observations Statement
 Page 3 of 4

Tax Parcel No.:	
Permit No.:	
Date:	

<input type="checkbox"/>	Inspection of Pile Foundations		
<input type="checkbox"/>	Inspection of Pier Foundations		
<input type="checkbox"/>	Inspection of Wood Panels and Veneers		
<input type="checkbox"/>	Inspection of Sprayed Fire-Resistant Materials		
<input type="checkbox"/>	Inspection of Smoke control		
<input type="checkbox"/>	Inspection of Exterior Insulation & Finish System (EIFS)		
<input type="checkbox"/>	Structural Observations		



Bensalem Township Application
Special Instructions and Observations Statement
 Page 4 of 4

Tax Parcel No.:	
Permit No.:	
Date:	

Required Special Inspections or Observations

FINAL REPORT

- | | |
|--|---|
| <input type="checkbox"/> Inspection of Fabricators | <input type="checkbox"/> Inspection of Pile Foundations |
| <input type="checkbox"/> Inspection of Steel Construction | <input type="checkbox"/> Inspection of Pier Foundations |
| <input type="checkbox"/> Inspection of Concrete Construction | <input type="checkbox"/> Inspection of Wood Panels and Veneers |
| <input type="checkbox"/> Inspection of Masonry Construction | <input type="checkbox"/> Inspection of Sprayed Fire-Resistant Materials |
| <input type="checkbox"/> Inspection of Wood Construction | <input type="checkbox"/> Inspection of Smoke controls |
| <input type="checkbox"/> Inspection of Soil Conditions | <input type="checkbox"/> Inspection of Exterior Insulation & Finish System (EIFS) |
| <input type="checkbox"/> Structural Observations | |

 Signature of Design Professional in Reasonable Charge

 Date Signed: (D/M/Y)

KEY for use in **CREDENTIAL** column:
 (on pages 2 and 3)

ACI	American Concrete Institute Certified Concrete Field Testing Technician
AWS	American Welding Society Certified Welding Inspector
ASNT	American Society of Non-Destructive Testing
AWCI	Association of Wall and Ceiling Industries
MCA	Model Code Agency (ICC, BOCA, SBCCI, ICBO) Special Inspection Certification
PA	Professional Architect (currently licensed)
PE	Professional Engineer (currently licensed)
OTHER	Specialized training coursework or other basis for competency deemed acceptable.