

CITY OF SANTA MARIA SPECIAL INSPECTION AND OBSERVATION MANUAL*

[Based on the 2016 C.B.C. Section [A] 110.3.9, Chapter 17 &
the City of Santa Maria Municipal Code]

***Special Inspections and Observation are in addition to the required City of Santa Maria Building Safety Inspections required by C.B.C., Section [A] 110**

TABLE OF CONTENTS	1
INTRODUCTION - SPECIAL INSPECTION MANUAL & OBSERVATION	3
1. OBSERVATION	
A. Structural Observation for Special Conditions	4
B. Electrical Observation for Special Conditions	5
C. Observation Procedures	6
D. Certificate of Compliance	7
2. SPECIAL INSPECTION – AN OVERVIEW	
WORK TYPES: 1 through 22. [C.B.C. §[A] 110.3.9 & Chapter 17]	8
3. GENERAL GUIDELINES	
A. Duties and Responsibilities of the Project Owner or Owners Authorized Agent	12
B. Duties and Responsibilities of the Registered Design Professional in Responsible Charge (RDPRC)	12
C. Duties and Responsibilities of the Special Inspector	14
D. Duties and Responsibilities of the Contractor	15
E. Duties and Responsibilities of the Building Official	16
4. SPECIAL INSPECTOR JOB TASK LISTINGS	
A. Geotechnical	17
1. Special Grading, Excavation and Filling	17
2. Driven, Cast-In Place Piers, Piles, Caissons & Helical Piling	19
a. Piles	19
b. Piers	19
B. Structural	20
1. Structural Steel	20
2. High Strength Bolting	27
3. Reinforced and Prestressed Concrete	20
a. Concrete Batch Plant	20
b. Reinforcing Steel	21
c. Concrete, Formwork and Embedded Items	22
d. Pre-Tensioned Concrete	23
e. Post-Tensioned Concrete	
4. Masonry	28
5. Shotcrete	30
6. Wood Construction - High-Load Diaphragms	32
7. Post Installed Anchors and Dowels	33
8. Reinforced Gypsum Concrete	35
9. Insulating Concrete Fill	35
10. Seismic Resistance of Structures, Systems & Components	35

C.	Architectural	37
1.	Spray Applied Fireproofing	37
	a. Sprayed	37
	b. Mastic and Intumescent	38
2.	Exterior Insulation and Finish Systems (EIFS)	38
D.	Electrical	39
E.	Mechanical and Plumbing	42
1.	Smoke Control Systems	42
2.	Automatic Shutoff for Air Distribution Systems	44
3.	Installation and Testing of Fire and Smoke Dampers	46
4.	Medical Gas & Vacuum Systems	47
5.	Grease Duct Fire Wrap	50
6.	Installation of Unlisted Gas Fired Appliances	52
F.	Special Cases	54
1.	Identification	54
5.	SPECIAL INSPECTOR MINIMUM QUALIFICATIONS	
A.	Identification	54
B.	Special Inspector	54
C.	Special Inspector Training	55
D.	Minimum Qualifications	55
E.	Special Inspections Testing Technician Minimum Qualifications	58
6.	SPECIAL INSPECTION FORMS & CERTIFICATES	
A.	Special Inspection Forms	60
1.	Special Inspector Daily Report	62
2.	Discrepancy Notice	63
3.	Sample Final Report	64
B.	City of Santa Maria Certificates	
1.	Special Inspection Certificates	
	a. Special Structural Inspections Certificate	65
	b. Special Electrical Inspections Certificate	67
	c. Special Geotechnical Inspections Certificate	69
	d. Special Mechanical Plumbing Inspections Certificate	71
	e. Special Architectural Inspections Certificate	73
2.	Certificates of Observation	
	a. Special Structural Observation Certificate	75
	b. Special Electrical Observation Certificate	77

INTRODUCTION - SPECIAL INSPECTION MANUAL & OBSERVATION

Special Inspections and Observation as required by the C.B.C. Sections [A] 110.3.9, 1704.6 and as amended by the City of Santa Maria Municipal Code (C.S.M.M.C.) is best defined as the monitoring of the materials, workmanship, installation, fabrication, erection or placement of components and connections which are critical to the integrity of the building structure or building service equipment that require special attention. This requires that the Project Owner or Owners Authorized Agent provide independent inspection by persons with specially developed knowledge and skills to check materials; workmanship; installation; fabrication; erection or placement of components; connections; and in some cases operability, against the City reviewed and approved plans, specifications and contract documents.

Special Inspections and Observations are in addition to the City of Santa Maria Building Safety Inspections required by C.B.C., Section [A] 110. [C.B.C. §1704.2]

This manual is a descriptive guideline for special inspection and observation administration. It defines the duties and responsibilities of the Project Owner or Owners Authorized Agent, **Registered Design Professional in Responsible Charge (RDPRC)**, Special Inspector, Contractor and Building Official. This manual applies to all work requiring special inspections and observations within the City of Santa Maria, however; the programs will vary depending on the scope of work requiring special inspections and observations. The special inspection and observation programs shall be established by the Engineer or Architect of Record during the project design stages and by the Plan Review staff during plan review.

This document will be revised from time to time as dictated by experience gained in its implementation and as necessary due to changing City of Santa Maria and California Construction Codes, practices and technology. **This manual is divided into six [6] sections as follows:**

- 1. Observation**
Structural Observation, Electrical Observation, Observations Procedures, Certificates of Compliance.
- 2. Special Inspection - An Overview [WORK TYPES: 1 TO 22]**
Gives an overview of job-site quality control through special inspection and observation.
- 3. General Guidelines**
Overall purposes for special inspection, respective duties and responsibilities of the Project Owner or Owners Authorized Agent, RDPRC, Special Inspectors, Contractor(s), and Building Official.
- 4. Special Inspector - Job Task Listings**
Lists minimum job tasks required of special inspectors.
- 5. Special Inspector Minimum Qualifications**
Lists competency and experience standards, and references performance standards for special inspectors. These minimum qualifications are designed to assist the RDPRC and Building Official in determining the special inspector's competence to perform specific tasks as listed in C.B.C. Section 1705 and as amended by the City of Santa Maria.
- 6. Special Inspection Forms & Certificates**
Representative minimum information and forms required by the Authority Having Jurisdiction.

SECTION 1 OBSERVATION

A. STRUCTURAL OBSERVATION FOR SPECIAL CONDITIONS

In addition to the City of Santa Maria Building Department Inspections required by C.B.C., Section [A] 110 and Special Inspections required by C.B.C., Section [A] 110.3.9; Structural Observation shall be provided when required by C.B.C., §1704.6.1 for seismic resistance and C.B.C., §1704.6.2 for wind requirements.

1. The structure is assigned to Seismic Design Category D, E or F and the structure is classified as Risk Category III or IV in accordance with C.B.C. §1604.5
2. Those structures sited where V_{asd} as determined by C.B.C., §1609.3.1 exceeds 100 mph and the structure is classified as Risk Category III or IV as per C.B.C., §1604.5.
3. The height of the structure is greater than 75 feet above the base as defined in A.S.C.E. 7.
4. The structure is assigned to Seismic Design Category E, is classified as Risk Category I or II in accordance with C.B.C. §1604.5 and is greater than two stories above grade plane.
5. When so designated by the registered design professional responsible for the structural design.
6. When such observation is specifically required by the building official.

The project owner or the owner's authorized agent shall employ the Registered Design Professional in Responsible Charge [RDPRC] of the structural design to perform visual observation of the structural system for general conformance to the approved construction documents. Structural Observation does not include or waive the responsibility for the City of Santa Maria Building Department Inspections required by C.B.C. Section [A] 110, Special Inspections required by Section [A] 110.3.9 or by other sections of the California Building Code. Prior to the commencement of observations, the structural observer shall submit to the building official a written statement identifying the frequency and extent of structural observations to be provided. All deviations from the approved plans or specifications shall, in writing, be brought to the immediate attention of the contractor for correction and, if uncorrected, reported in writing to the RDPRC of the structural design and the City of Santa Maria Building Inspector.

At the conclusion of the work included in the permit, the Structural Observer shall submit a final signed report to the Owner and to the City of Santa Maria Building Inspector providing final observation results and stating whether the items requiring structural observation were, to the best of the observer's knowledge in compliance with the approved plans, specifications and applicable workmanship provisions of the code. Final inspection approval and/or issuance of the Certificate of Occupancy will not occur until all Structural Observation reports and the completed and signed City of Santa Maria Structural Observation Certificate has been received, reviewed and accepted by the City of Santa Maria Building Department.

B. ELECTRICAL OBSERVATION FOR SPECIAL CONDITIONS

In addition to the City of Santa Maria Building Department Inspections required by C.B.C., Section [A] 110, Special Inspections required by C.B.C., Section [A] 110.3.9 and inspections required by the City's adoption of the California Electric Code (C.E.C.) Title 9 Building Regulations Section 9-2.100; Electrical Observation shall be provided when required by the City of Santa Maria Municipal Code Section 9-2.211 amending C.E.C. Subsection 80.19(F)6 of Annex H is to be provided when any of the following conditions exist:

1. Installation or alteration of high voltage electrical systems and equipment over 600 volts which fall within the scope of C.E.C., Article 490; or
2. Installation or alteration of that portion of a healthcare facilities electrical system which falls within the scope of Article 517 of the C.E.C., including such systems installed in facilities where outpatient surgical procedures are performed. (OSHDP 3); or
3. Installation or alteration of electrical systems within locations classified as hazardous by provisions of the C.E.C., except for gasoline dispensing installations and systems located within storage garages, repair garages or lubritoriums [C.E.C., §511 & §514]; or
4. Installation of Critical Operations Power Systems (COPS) as per C.E.C., Article 708; or
5. Installation of Solar Photovoltaic Systems greater than 100 kva (C.E.C., Article 690); or
6. When required by Registered Design Professional in Responsible Charge for the electrical design, or
7. When such observation is specifically required by the building official.

The project owner or the owner's authorized agent shall employ the Registered Design Professional in Responsible Charge [RDPRC] of the electrical design to perform visual observation of complex electrical equipment and systems for general conformance to the approved construction documents. Electrical Observation does not include or waive the responsibility for the City of Santa Maria Building Department Inspections required by C.B.C. Section [A] 110, Special Inspections required by Section [A] 110.3.9 or by other sections of the C.B.C. or C.E.C.. Prior to the commencement of observations, the electrical observer shall submit to the building official a written statement identifying the frequency and extent of electrical observations to be provided. All deviations from the approved plans or specifications shall, in writing, be brought to the immediate attention of the contractor for correction and, if uncorrected, reported in writing to the RDPRC of the electrical design and the City of Santa Maria Building Inspector.

At the conclusion of the work included in the permit, the Electrical Observer shall submit a final signed report to the Owner and to the City of Santa Maria Building Inspector providing final observation results and stating whether the items requiring electrical observation were, to the best of the observer's knowledge in compliance with the approved plans, specifications and applicable workmanship provisions of the code. Final inspection approval and/or issuance of the Certificate of Occupancy will not occur until all Electrical Observation reports and the completed and signed City of Santa Maria Electrical Observation Certificate has been received, reviewed and accepted by the City of Santa Maria Building Department.

C. OBSERVATION PROCEDURES

When a project has been identified as requiring Structural and/or Electrical Observation, the owner shall employ the Project Architect, Engineer, or Registered Design Professional of Record (**RDPR**) responsible for the structural or electrical design or a delegated Designated Registered Design Professional (**DRDP**) designated by the RDPR to perform the observation.

When a project has been identified as requiring structural and/or electrical observation, the following tasks shall be the responsibility of the **RDPR** or **DRDP**:

1. Clearly outline the Observation Plan on the drawings. The plan shall include the items or elements that require observation.
2. Complete and return the applicable enclosed Certificate of Observation to the Building Official.*
3. Review the plans with the contractor and indicate when the contractor is to call the RDPR or DRDP for observation requirements.* This may take place during the pre-construction meeting as outlined on Section 3D of this manual.
4. Perform the site visits and prepare reports as stated in the code.*
5. Designate a DRDP for Observation if a Designated Registered Design Professional (DRDP) is to be employed for Observations in lieu of the RDPR.

* When the Designated Registered Design Professional is to perform the observation, this responsibility rests with the Designated Registered Design Professional.

When a project has been identified as requiring structural or electrical observation, the following tasks shall be the responsibility of the applicable **Contractor(s)**:

1. Meet with the RDPR responsible for the structural and/or electrical design or the Designated Registered Design Professional (DRDP) for observation to review the plans. This may take place during the pre-construction meeting as outlined on Section 3D of this manual.
2. Submit a written statement of responsibility to the building official and the owner prior to work on any structural or electrical system or component. The contractor's statement of responsibility shall contain acknowledgement of awareness of observation
3. Notify the RDPR or DRDP prior to construction as determined in the pre-construction meetings of the identified structural or electrical elements and/or systems required to be observed.
4. Keep all work requiring observation uncovered and clearly visible for the DRDP or RDPR to perform the observation. Work is to remain uncovered until the City Building inspector approves covering.
5. Provide CAL-OSHA compliant access to the work requiring observation.

When a project has been identified as requiring structural and/or electrical observation, the following tasks shall be the responsibility of the **Project Owner**:

1. Employ the Building and/or Electrical Contractor(s) to provide the required construction.
2. Employ the RDPR or DRDP to provide the required observations, reports and certificates.

When a project has been identified as requiring observation, the following tasks shall be the responsibility of the **Building Official**:

1. Plan Reviewer:
 - a. Verify the Structural and/or Electrical Observation Program is noted on the plans and ensure the applicable Certificate of Observation is properly completed, accurate, signed, sealed, scanned and attached to the permit and Database record.
 - b. Verify the applicable Certificate of Observation is properly signed and sealed at the end of the observation, scan the completed certificate and upload to the permit Database record.
2. City Inspector:
 - a. Review the Observation Program Certificate(s) attached to the permit and plans.
 - b. Attend any pre-construction conferences related to the observation program and address any concerns of the RDPR, DRDP or contractor(s).
 - c. Perform City required inspections after and/or concurrently with the observation.
 - d. Review observation reports.
 - e. Review discrepancies reported by RDPR or DRDP.
 - f. Obtain final signed and sealed Certificate of Observation and provide to the Plan Reviewer.

D. CERTIFICATE OF COMPLIANCE

Upon completion of the portions of the work requiring structural and/or electrical observation, a Certificate of Compliance Statement shall be issued to the building official over the seal and signature of the RDPR or DRDP responsible for such observation(s). A Certificate of Occupancy will not be issued until the Building Department receives all required observation reports and the Certificate of Observation Statement. The Certificate of Compliance for observation shall read as follows for the applicable trade or project scope:

FOR THE STRUCTURAL OBSERVATION STATEMENT:

"I certify that to the best of my knowledge the requirements of the City of Santa Maria Building Construction Code and City reviewed plans and specifications have been complied with insofar as the portion of the work requiring structural observation is concerned, except for those deviations that have been previously reported. A guarantee that the contractor has necessarily constructed the building in full accord with the plans and specifications is neither intended nor implied."

FOR THE ELECTRICAL OBSERVATION STATEMENT:

"I certify that to the best of my knowledge the Electrical requirements of the City of Santa Maria Construction Code and approved plans and specifications have been complied with in so far as the portion of the work requiring Electrical Observation is concerned, except for those deviations that have been previously reported. A guarantee that the contractor has necessarily constructed the work in full accordance with the plans and specifications is neither intended nor implied."

SECTION 2

SPECIAL INSPECTION - AN OVERVIEW

Under this program, the Project Owner is required to employ qualified third party special inspector(s) or agencies for inspection during construction in addition to regular inspections provided by the Building Official as required by C.B.C., Section [A] 110.

The use of special inspectors is not discretionary. C.B.C. Sections 1704.2 and 1705 states the conditions under which they must be utilized, but there are provisions allowing the building official to waive special inspection for work of a minor nature or exempt occupancies.

Continuous special inspection means that the approved special inspector is present when and where the work to be inspected is being performed. [C.B.C. §202 & §1702]

Periodic special inspection means that some inspections may be made on a part-time or intermittent basis for work requiring special inspection by an approved special inspector who is present when and where the work to be inspected is being performed. [C.B.C. §202 & §1702]

Continuity of inspections is very important and it is best provided by using one qualified individual or agency as the Special Inspector for each discipline that requires special inspection. The use of multiple inspectors performing a given task is intended to be discouraged.

Additional provision allow the building official to use discretion for the requirement of a special inspector in other cases where it is deemed appropriate.

The use of special inspectors is reserved for complex installations requiring certain specially developed inspection skills in conjunction with qualified engineering laboratories for the following types of work:

WORK TYPES [Listed in C.B.C. §1704, §1705, National Standards and as amended by the City of Santa Maria Municipal Code] Refer to the referenced code or standard for complete requirements:

1. **Inspection of Fabricators** [C.B.C. §1704.2.5; A.I.S.C. 360-N2, 360-N3 & 360-N5]
2. **Steel Construction** [C.B.C. §1705.2, Table 1705.2.3 & A.I.S.C. 360-10]
 - C.B.C. §1705.2.2 Cold-formed steel deck [S.D.I. QA/QC]
 - C.B.C. §1705.2.3 Open-web steel joists and joist girders [Table 1705.2.3]
 - C.B.C. §1705.2.4 Cold-Formed Steel Trusses spanning 60 feet or greater
 - A.I.S.C. 360-N5.4 Welding [AWS D1.1/D1.1M & A.I.S.C. 360 Tables N5.4-1 thru N5.4-3]
 - A.I.S.C. 360-N5.6 High-strength bolts [A.I.S.C. 360 Tables N5.6-1 thru N5.6-3]
3. **Concrete Construction** [C.B.C. §1705.3, Table 1705.3 and A.C.I. 318-14]
 - C.B.C. §1705.3 Materials [includes strength & post tensioning] [A.C.I. 318: Ch. 20]
 - C.B.C. §1705.3.1 Welding of Reinforcing Bars [A.S.T.M. A706, A.W.S. D1.4, A.C.I. 318:26]
 - C.B.C. §1705.3.2 Expansion Bolts and Epoxy Anchors [A.C.I. 318:17, I.C.C. E.S.R. §4.4]
 - C.B.C. §1705.3.2 Shotcrete [A.C.I. 318: 26.4.5]
 - C.B.C. §1705.3.2 Required Design Mix, Formwork & Reinforcement [A.C.I. 318: Ch 19 & 26]

4. **Masonry Construction** [C.B.C. §1705.4 and A.C.I. 530-13]
 - C.B.C. §1705.1.1 Expansion Bolts and Epoxy Anchors [A.C.I. 530:1.20 & I.C.C. E.S.R. §4.4]
 - C.B.C. §1705.4.1 Empirically designed masonry, glass unit masonry and masonry veneer in Risk Category IV. [A.C.I. 530: Tables 1.19.1 thru 1.19.3]
 - C.B.C. §1705.4.2 Vertical Masonry Foundation Elements [TMS 402/A.C.I. 530/A.S.C.E. 5 & TMS 602/A.C.I. 530.1/A.S.C.E. 6]
 - A.C.I. 530:1.19.2.2 Engineered masonry in Risk Category I, II or III. [A.C.I. 530: Table 1.19.2]
 - A.C.I. 530:1.19.3 Engineered masonry in Risk Category IV [A.C.I. 530: Table 1.19.3]
5. **Wood Construction** [C.B.C. §1705.5 & A.W.C. NDS-2015]
 - C.B.C. §1705.5 Prefabricated Wood structural elements and assemblies [C.B.C., 1704.2.5]
 - C.B.C. §1705.5.1 High-load diaphragms [A.W.C. SDPWS-2015]
 - C.B.C. §1705.5.2 Metal-plate connected wood trusses spanning 60 feet or greater [T.P.I. 1-2014]
6. **Soils** [C.B.C. §1705.6 & Table 1705.6]
 - A.S.T.M. D1557-12 Fill Placement & Load-Bearing requirements per approved geotechnical report
7. **Driven Deep (Pile) Foundations** [C.B.C. §1705.7 & Table 1705.7]
 - A.S.T.M. D3689-2013E1 Requirements per approved geotechnical report and C.B.C., Table 1705.7
8. **Cast-in Place deep (Pier) Foundations** [C.B.C. §1705.8 & Table 1705.8]
 - A.S.T.M. D3689-2013E1 Requirements per approved geotechnical report and C.B.C., Table 1705.8
9. **Helical Pile Foundations** [C.B.C., §1705.9 & I.C.C. E.S.R.#: §4.4]
 - C.B.C., §1705.9 Requirements per approved geotechnical report and I.C.C. E.S.R. listing §4.4
10. **Sprayed Fire-Resistant Materials** [C.B.C. §1705.14]
 - C.B.C., §1705.14.1 Physical and Visual Tests
 - C.B.C., §1705.14.2 Structural Member Surface Conditions
 - C.B.C., §1705.14.3 Application
 - C.B.C., §1705.14.4 Thickness [C.B.C., §1705.14.4.1 thru §1705.14.4.9]
 - C.B.C., §1705.14.5 Density
 - C.B.C., §1705.14.6 Bond Strength [C.B.C., §1705.14.6.1 thru §1705.14.6.3]
11. **Mastic and Intumescent Fire-resistant Coatings** [C.B.C. §1705.15 & A.W.C.I. 12-B]
 - A.W.C.I. 12-B-04 Technical Manual 12-B Standard Practice for the Testing and Inspection of Field Applied Thin Film Intumescent Fire-resistive Materials; an Annotated Guide, Second Edition
12. **Exterior Insulation and Finish Systems (EIFS)** [C.B.C. §1705.16 & A.S.T.M. E2570-07]
 - C.B.C., §1705.16 All EIFS Applications. Water-Resistive Barrier Coatings [A.S.T.M. E2570]
13. **Fire-resistant Penetrations and Joints** [C.B.C. §1705.17]
 - C.B.C., §1705.17.1 Penetration Firestops [A.S.T.M. E2174-10AE1]
 - C.B.C., §1705.17.2 Fire-Resistant Joint Systems [A.S.T.M. E2393-10A]

14. **Testing for Smoke Control** [C.B.C. §909 & §1705.18]
 C.B.C., §1705.18.1 Test Scope [C.B.C., §909.1 thru §909.21.11 & N.F.P.A. 92-15]
 C.B.C., §1705.18.2 Qualifications [A.A.B.C. & N.E.B.B]
15. **Architectural Components** [C.B.C., §1705.12.5 & C.S.M.M.C. §9-1.223]
 C.B.C., §1705.12.5 Adhered or Anchored Veneer more than 8 feet above grade.
 [C.B.C., §1405.10]
 C.B.C., §1705.12.5.1 Anchorage of Access Floors in structures assigned to Seismic Design
 Category D, E or F [C.I.S.C.A.-Recommended Test Procedures for Access
 Floors, 2007 edition]
16. **Electrical Special Inspection** [C.S.M.M.C. §9-1.227, §9-2.211 & C.E.C., Annex H, §80.19(F)6]
 C.B.C., §1705.22 Ground-fault Protection Performance of Services. [C.E.C., §215.10 & §230.95]
 C.B.C., §2702 Emergency and Standby Power Systems.
 C.E.C., §490 Switchboards, Distribution Boards and Motor Control Centers 1,000 Amperes
 or more, or over 600 volts.
 C.E.C., §490 Transformers 100 kVA or more single phase or 300 kVA or more three phase.
 C.E.C., §511 Hazardous Locations except for except for gasoline dispensing installations
 C.E.C., §514 and systems located within storage garages, repair garages or lubricatoriums.
 C.E.C., §517 Installation or alteration of that portion of healthcare facility electrical system
 (OSHPD 3) which falls within the scope of C.E.C., §517 including such systems
 installed in facilities where outpatient surgical procedures are performed.
 C.E.C., §690 Solar Photovoltaic Systems greater than 100 kVA
 C.E.C., §708 Installation of Critical Operations Power Systems (COPS)
17. **Smoke Detectors** [C.S.M.M.C. §9-1.224 added C.B.C., §1705.19]
 C.B.C., §1705.19 Smoke or Combination Fire/Smoke dampers. [C.M.C. §605 & C.B.C., §717]
 C.B.C., §1705.19 H.V.A.C. Automatic Shutoffs for air distribution systems. [C.M.C., §608]
18. **Duct Fire Wrap** [C.S.M.M.C. §9-1.225 added C.B.C., §1705.20 & A.S.T.M. E2336-2004]
 C.B.C., §1705.20 Installation of 2-layer field-applied grease duct fire wrap system.
 [C.M.C., §507.3.5 & §507.3.6;]
19. **Unlisted Gas Fired Appliances** [C.S.M.M.C. §9-1.226 added C.B.C., §1705.21]
 C.B.C., §1705.21 Field Evaluation and Engineers Report of Unlisted Equipment.
 [C.M.C., §302.1 & C.P.C., §301.2]
20. **Medical Gas and Vacuum Systems** [C.P.C., §1319; N.F.P.A. 99 & 99C – 2012]
 C.P.C., §1319 Testing and Inspection [N.F.P.A. 99:5.1.12.2]
 C.P.C., §1320 System Certification [N.F.P.A. 99:5.1.12.3]

21. **Special Inspections for Seismic Resistance** [C.B.C., §1705.12]
- C.B.C., §1704.6.1 The structure is assigned to Seismic Design Category D, E or F and the structure is classified as Risk Category III or IV.
 - C.B.C., §1705.12.1 Structural Steel [A.I.S.C.-341-10]
 - C.B.C., §1705.12.2 Structural Wood [A.W.C. N.D.S – 2015]
 - C.B.C., §1705.12.3 Cold-formed Steel Light Frame construction [A.I.S.I – 07; S100, S110, S200, S210, S211, S212 & S213]
 - C.B.C., §1705.12.7 Storage Racks 8-Feet or greater in height
 - C.B.C., §1705.12.8 Seismic Isolation Systems.
 - C.B.C., §1705.12.9 Cold-Formed Steel Special Bolted Moment Frames. [A.I.S.C.-10]
22. **Plumbing, Mechanical and Electrical Components** [C.B.C., §1705.12.6]
- C.B.C., §1705.6.1 Periodic special inspection is required during the anchorage of electrical equipment for emergency and standby power systems in structures assigned to Seismic Design Category C, D, E or F.
 - C.B.C., §1705.6.2 Periodic special inspection is required during the installation of anchorage of other electrical equipment in structures assigned to Seismic Design Category E or F
 - C.B.C., §1705.6.3 Periodic special inspection is required during installation and anchorage of piping systems intended to carry hazardous materials and their associated mechanical units in structures assigned to Seismic Design Category C, D, E or F.
 - C.B.C., §1705.6.4 Periodic special inspection is required during the installation of H.V.A.C. Ductwork designed to carry hazardous materials in structures assigned to Seismic Design Category C, D, E or F.
 - C.B.C. §1705.6.5 Periodic special inspection is required during the installation of vibration Isolation systems in structures assigned to Seismic Design Category C, D, E or F where the approved construction documents require a nominal clearance of 1/4 inch or less between the equipment support frame and restraint.

SECTION 3 GENERAL GUIDELINES

A. DUTIES AND RESPONSIBILITIES OF THE PROJECT OWNER

The owner or the owner's agent shall employ one or more approved special inspection agencies or individuals to perform special inspections during construction on the types of work listed under C.B.C., Sections 1704 and 1705; C.S.M.M.C. Sections 9-1.223 thru 9-1.226 and 9-2.211. These inspections are in addition to the City of Santa Maria Building Department inspections required by C.B.C., Section [A] 110. [C.B.C. Section 1704.2.]. Although the payment of inspection services may be included in the project specifications as a responsibility of the contractor, the special inspection services are to be employed directly by the owner or owners agent.

The Project Owner Shall:

1. Notify the Registered Design Professional of Record (**RDPR**) in the event a Designated Registered Design Professional (**DRDP**) is chosen in lieu of the RDPR to provide the special inspection services as described in Section 3.B, Duties and Responsibilities of the RDPR.
2. The owner or owners agent shall employ the special inspector(s), RDPR or DRDP as applicable to perform the required special inspection(s).
3. Once a construction permit has been issued and the owner wishes to change the special inspector(s), RDPR or DRDP employed for special inspection, the owner shall obtain have completed a new and completed Special Inspection Certificate that shall be and forward to the Building Official. This shall be done in accordance with sections [A] 107.3.4 of the C.B.C. Administrative Provisions.
4. At a point in time agreed upon prior to the start of work by the project applicant and the building official the owner is to obtain a copy of the Special Inspection Final Report and forward it to the building official.

B. DUTIES AND RESPONSIBILITIES OF THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE (RDPRC) [C.B.C. §[A] 107.3.4]

The **RDPRC** shall be responsible for coordinating the types of work requiring special inspection as defined in Section 2 of this document.

- Structural Special Inspectors are required for Work Types 1, 2, 3, 4, 5 and 21.
- Architectural Special Inspectors are required for Work Types 10, 11, 12, 13 and 15.
- Geotechnical Special Inspectors are required for Work Types 6, 7, 8 and 9.
- Electrical Special Inspectors are required for Work Type 16 and 22.
- Mechanical, Special Inspectors are required for Work Type 14, 17, 18, 19 and 22.
- Plumbing Special Inspectors are required for Work Type 19, 20 and 22.

A Designated Registered Design Professional in Responsible Charge (**DRDPRC**), with the approval of the Building Official, **RDPRC** and the Project Owner, may assume the responsibilities and duties of all inspection items for the **RDPRC** as identified below. The **DRDPRC** may not change the design of the building or approved construction drawings without the **RDPRC**'s approval.

The Duties and Responsibilities of the RDPRC shall include the following:

- 1. Statement of Special Inspection.** (See enclosed Certificates of Special Inspection)
Where special inspection or testing is required by C.B.C. Section 1704, 1705, and elsewhere in the C.S.M.M.C., the **RDPRC** shall prepare a statement of special inspections for submittal by the project applicant that identifies the code required or design specified needs for special inspection services. The project plans that are submitted to the Building Official shall clearly indicate the design parameters, material selection and where special inspection is necessary or required in accordance with the Codes.
- 2. Content of Statement Special Inspection.** (See enclosed Certificates of Special Inspection)

 - ❖ Specify the materials, systems, components and work required to have special inspection or testing by the code, building official or by the registered design professional responsible for each portion of the work.
 - ❖ The type and extent of each special inspection and/or test.
 - ❖ Additional requirements for special inspection or testing for seismic or wind resistance as specified in C.B.C. Sections 1704.3.2, 1704.3.3, 1705.11 or 1705.12.
 - ❖ For each type of special inspection, identification as to whether it will be continuous special inspection or periodic special inspection.
- 3. Determine inspection activities.**
The **RDPRC** shall be responsible for identifying on the plans the continuous and/or period Special Inspection activities required of the Special Inspector or firm for the work items for which the Special Inspector or firm is responsible to perform.
- 4. Specification of testing and test procedures.**
During the pre-construction meeting, the **RDPRC** shall be responsible for defining and specifying tests and testing procedures (such as those not specifically included in the C.B.C. referenced standards) as may be required for the **RDPRC** work.
- 5. Identify who the qualified special inspection agency or inspector(s) will be.**
The **RDPRC**, with the help of the Building Official, shall identify on the City's Special Inspection Certificate who the qualified agency or inspectors will be that meet the minimum qualifications listed in this manual for the work being performed. The special inspector shall be a qualified person who shall demonstrate competence, to the satisfaction of the building official, for the inspection of the particular type of construction or operation requiring special inspection. The registered design professional in responsible charge and engineers of record involved in the design of the project are permitted to act as the approved inspection agency and their personnel are permitted to act as the special inspector for the work designed by them, provided those personnel meet the qualification requirements of this manual to the satisfaction of the building official.
- 6. Submit the completed, signed and sealed Special Inspection Certificate(s) to the Building Official as a part of the Plan Submittal and Review Process.**
- 7. Review Special Inspection Final Report.**
At the completion of construction, the Special Inspectors Final Report shall be submitted to the **RDPRC** for review. The **RDPRC** shall sign the Certificate of Special Inspection as having received the Final Special Inspection Report and forward this final signed copy of the Certificate to the City.

C. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR

The Duties and Responsibilities of the Special Inspectors shall include the following:

1 Obtain approval from the Building Official as being a qualified Special Inspector.

The special inspector shall provide written documentation and certifications to the building official demonstrating his or her competence and relevant experience or training in the field special inspection is to be provided. Experience, training and certifications shall be considered relevant when the documented experience, training or certification is related in complexity to the same type of special inspection activities for projects of similar complexity and material qualities. These qualifications are in addition to qualifications specified in other sections of this manual.

2. Attend Pre-Construction Contractors Meeting.

Prior to construction, the Contractor establishes a date and location for the pre-construction meeting. All Special Inspectors for the required Work Types shall attend this meeting. In case of multiple building permits, more than one pre-construction meeting may be required.

3. Signify presence at job-site.

Special inspectors shall notify contractor personnel of their presence and responsibilities at the job-site and at the pre-construction meeting. Special inspectors shall post their building official approved qualifications and contact information at the job-site.

4. Inspect all work for which they are responsible.

Special inspectors shall inspect all work for conformance with the Building Department reviewed and approved drawings and specifications, applicable provisions of the Construction Code, and the Job Tasks identified in Sections 2 and 4 of this manual and the applicable construction codes.

5. Separately identify all nonconforming work.

Special inspectors shall bring all nonconforming items to the immediate attention of the Contractor and the **RDPRC**. If any such item is not resolved in a timely manner or is about to be incorporated in the work, the building official shall be notified immediately by telephone or in person, and the special inspector shall issue a discrepancy notice.

6. Issue Discrepancy Notice.

The special inspector shall post the discrepancy notice at the job-site with the permit. This notice shall contain as a minimum, the following information about each nonconforming item:

- a. Description and exact location.
- b. Reference to applicable detail of City reviewed plans/specification.
- c. Name and title of each individual notified and method of notification.
- d. Resolution or corrective action.

7. Provide Daily Reports.

The special inspector shall complete written inspection reports for each inspection visit. These reports shall be organized on a daily format and a copy shall remain at the job-site with the Contractor and available to the City Building Inspector. Special Inspectors shall:

- a. Describe inspections and tests made with applicable locations.
- b. List all nonconforming items; parties notified, time and method of notification.
- c. Indicate how nonconforming items were resolved

- d. List unresolved items
- e. Provide daily reports to the Contractor for retention on job-site for review by the Building Inspector.

8. Provide Final Special Inspection Report.

A Final Report documenting the required special inspections and correction of any discrepancies noted in the inspections shall be submitted at a point in time agreed upon prior to the start of work by the applicant and the building official. When the construction reaches the point that Special Inspections are no longer required, the Final Inspection Report shall be submitted to the Project Owner, Building Official and to the RDPRC. [C.B.C. Section 1704.2.4]

D. DUTIES & RESPONSIBILITIES OF THE CONTRACTOR

The contractor's (as designated on the building permit) duties include the following:

1. Responsible for setting up the pre-construction conference.

- a. Prior to construction, establish the date and location for the meeting. Attendees shall include all Special Inspectors for the required Work Types, the Contractor, Building Official, RDPRC, DRDPRC and others as necessary.
- b. In case of multiple building permits, more than one meeting may be required.

2. Notify the Special Inspector.

The contractor is responsible for notifying the special inspector of the work progress and when construction items are ready for inspection. Adequate notice shall be provided so that the special inspector has time to schedule all inspections.

3. Provide access to the project.

The Contractor is responsible for providing the Special Inspector OSHA approved access to the job-site and the work to be inspected.

4. Retain records on job-site.

The Contractor is responsible for retaining at the job site City reviewed plans and Specifications, all special inspection records and reports by the special inspector. Upon request he shall provide these documents for review by the Building Official.

5. Notification of the Building Official.

The contractor shall, in addition to calling for special inspections, notify the City of Santa Maria Building Department of all other required inspections in accordance with C.B.C. Section [A] 110 which will result in an inspection by the Building Official.

6. Performance of the work.

The contractor is charged with the construction of the project in compliance with the City approved plans as reviewed by the Building Official. The contractor is responsible for installation of all items in accordance with applicable Codes and Standards. If a conflict arises between the Code and the City reviewed plans, this conflict shall immediately be brought to the attention of the Building Official and the RDPRC. [C.B.C., Section 1704.4]

E. DUTIES AND RESPONSIBILITIES OF THE BUILDING OFFICIAL

The specific provisions of providing for special inspection services are mandatory under C.B.C. Section 1704.2 that states, "Where application is made to the building official for construction as specified in C.B.C., §[A] 105 or §1.8.4, as applicable, the owner or the owner's authorized agent, other than the contractor, shall employ one or more approved agencies to provide special inspections and tests during construction on the types of work specified in C.B.C., §1705 and identify the approved agencies to the building official. These special inspections and tests are in addition to the inspections by the building official that are identified in C.B.C., §[A] 110."

1. Review and Examine Plans for compliance with adopted code requirements and verify all required Special Inspections are identified on the plans and contract documents.

The Building Official is charged with the legal authority to review the plans and specifications for compliance with the requirements of the California Construction Codes and the City of Santa Maria Municipal Code. (S.M.M.C.) [C.B.C. Sections: 107.3 and 1704]

2. Communicate Special Inspection and Engineer Report requirements to the Registered Design Professional in Responsible Charge (RDPRC), Contractor and Project Owner.

The special inspection requirements are to be identified in the plan approval process. The Building Official shall require the RDPRC to properly complete, sign and seal the applicable City of Santa Maria's Certificate of Special Inspection that includes the following requirements prescribed by C.B.C.' Section 1705 for the Statement of Special Inspection:

- ❖ Specifies the materials, systems, components and work required to have special inspection or testing by the code, building official or by the registered design professional responsible for each portion of the work.
- ❖ The type and extent of each special inspection.
- ❖ The type and extent of each test.
- ❖ Additional requirements for special inspection or testing for seismic or wind resistance as specified in C.B.C. Sections 1705.3, 1705.4, 1707 or 1708.
- ❖ For each type of special inspection, identification as to whether it will be continuous special inspection or periodic special inspection.
- ❖ Identifies the qualified special inspection agency or special inspector.
- ❖ Attach completed Special Inspection Certificate to the permit job card and scan to records.

3. Notify the Contractor of the Requirement for a Pre-Construction Meeting.

4. Monitor the Special Inspection Activities.

The Building Official shall monitor the jobsite to see that qualified special inspectors are provided as required and that an adequate number of qualified special inspection staff is present depending upon extent and complexity of the project. [C.B.C. Section 110.3.9 and 1704.1]

5. Review Inspection Reports.

The Building Official reviews the daily inspection reports. (C.B.C. Section 1704.1.2.)

6. Inspection of Jobsite.

The building official shall perform all inspections required under C.B.C. Section 110. Failure to have the required Special Inspector's inspection reports available to the building official shall be

cause for the building official to stop work on those items requiring special inspection until such time that all required reports are provided.

7. Obtain and Review the Final Special Inspection Report.

A final report documenting the required special inspections and correction of any discrepancies noted in the inspections shall be submitted at a point in time agreed upon prior to the start of work by the applicant and the building official. When the construction reaches the point that Special Inspections are no longer required, the Final Inspection Report shall be submitted to the Project Owner, Building Official and to the Registered Design Professional in Responsible Charge. (C.B.C. Section 1704.1.2)

8. Issue Certificate of Occupancy / Certificate of Completion.

The Building Official shall perform a final inspection and issue a Certificate of Occupancy or Certificate of Completion, where applicable. This inspection and issuance shall not be done until after the final report(s) and/or engineer report(s) have been received and accepted by the Building Official. (C.B.C., Section 1704.1.2)

SECTION 4 SPECIAL INSPECTOR JOB TASK LISTINGS

The job tasks listed in this section are intended to represent the basic inspection tasks and do not necessarily describe every detail of the job descriptions. For more specific tasks, consult specifications and codes, such as ACI, ASTM, AISC, etc., applicable to the task in question. **Work Types** shown refer to Inspection Codes listed in Section 2 of this manual.

A. GEOTECHNICAL

1. SPECIAL GRADING, EXCAVATION AND FILLING Work Type 6

a. OBSERVATION DUTIES: (C.B.C., Table 1704.7)

A. Documents

1. Review the approved plans, specifications, and the geotechnical engineer's report.
2. Note and record the equipment being used on site.

B. Verification

1. Verify materials below footings are adequate to achieve the desired bearing capacity.
2. Verify excavations are extended to proper depth and have reached proper material.
3. Perform classification and testing of controlled fill materials.
4. Verify use of proper materials, densities, and lift thicknesses during placement and compaction of controlled fill.
5. Prior to placement of controlled fill, observe subgrade and verify that site has been prepared properly.

C. Sampling of Materials

1. Sample and verify that the following materials are delivered to the Materials Engineering Laboratory for any required testing:
 - a) Subgrade materials;
 - b) Native-fill materials;
 - c) Imported materials; and
 - d) Additive materials (lime, cement, sand, pozzolan, etc.).

D. Testing

1. Perform soils classification and properties tests as required on native and/or imported soils.
2. Perform laboratory moisture-density relationship tests or other structural property tests as required.
3. Where applicable, conduct a laboratory testing program to determine soils' properties resulting from admixtures such as cement or lime.
4. In the field, conduct in-place field density and moisture tests using procedures specified in the contract documents. Frequency of testing should be predetermined to allow for representative coverage of each lift, while interfering as little as possible with the earthwork operation's schedule.
5. Conduct testing in a timely manner to avoid having to retest previously covered work. Similarly, test methods should be predetermined so as to take into account the Contractor's procedures and soil types.
6. Periodically sample materials in the field to verify continued compliance with specification requirements (recommended).

E. Reports

1. Submit written progress reports describing the tests and observations made and showing the action taken to correct nonconforming work.
2. Upon completion of the building pad grading, the Special Inspector shall submit a final report to the Building Official certifying that the provisions of the soil investigation report have been met and that the recommended maximum bearing value, and the foundation minimum depth and width applicable to that bearing value have been achieved. The report must clearly indicate these values and dimensions and should contain any additional recommendations for tests during construction.

Rationale:

The Building Inspector must obtain a copy of this soils certification before allowing foundation to be poured or constructed. It is difficult to pick out all of the recommendations from the original soils investigation if the document is even available on the jobsite. This can result in concrete being rejected and delays to the contractor and extra unnecessary expense to the Project Owner.

2. DRIVEN, CAST-IN PLACE PIERS, PILES, CAISSONS & HELICAL PILING

Work Type 7, 8 and 9

a. **OBSERVATION DUTIES: PILES (C.B.C. Table1704.8)**

The observation of driven piles is a specialized discipline that requires the oversight of a design geotechnical engineer. Interpretation of pile capacity is achieved through knowledge of the anticipated soil types and the types of pile-driving equipment being used to install the piles. Materials engineering laboratories should only perform this service under the supervision and oversight of the design geotechnical engineer. If this inspection is not performed by the geotechnical engineer of record, it is recommended that the geotechnical engineer at least monitor the work of the special inspector to ensure that the inspector has the knowledge, experience, and all pertinent information.

A. Documents

1. Review the approved plans, specifications, and the geotechnical engineer's report.
2. Note and record the equipment being used on site.

B. Verification

1. Verify that pile materials, sizes, and lengths comply with the requirements.
2. Determine capacities of test piles and conduct additional load tests, as required under the supervision of the design geotechnical engineer.
3. Observe driving operations and maintain complete and accurate records for each pile.
4. Verify locations of piles and their plumbness.
 - a) Confirm type and size of hammer.
 - b) Record number of blows per foot of penetration.
 - c) Determine required penetrations to achieve design capacity.
 - d) Record tip and butt elevations and record any pile damage.
5. For steel piles, perform additional inspections in accordance with C.B.C. Section 1704.3.
6. For concrete piles and concrete-filled piles, perform additional inspection in accordance with C.B.C. Section 1704.4
7. For specialty piles, perform additional inspections as determined by the registered design professional in responsible charge.
8. For augered uncased piles and caisson piles, perform inspections in accordance with C.B.C. Section 1704.9 and 1704.10.

C. Testing

1. Determine capacities of test piles and conduct additional load tests, as required.

D. Reports

1. Submit written progress reports describing the tests and observations made and showing the action taken to correct nonconforming work.

b. **OBSERVATION DUTIES: PIERS (C.B.C. Table1704.9)**

Drilled pier (Cast-In-Drilled-Hole CIDH) observation requires experience with soil and rock identification and with interpretation of design soil and embedment requirements. Materials engineering laboratories engaging in this service should do so only under the direct supervision and oversight of the design geotechnical engineer. Minor drilled pier foundations for non-structural improvements may be observed without the oversight of the design geotechnical engineer. Additionally, CIDH piles deriving their support in friction for lightly loaded structures can be observed by special inspection personnel provided a design geotechnical engineer is reviewing and accepting the work. CIDH piers for major structures, for critical structures such as

schools and hospitals, for any pier constructed underwater using the tremmie method, or for any pier requiring an interpretation of end-bearing capacity or embedment into a specific soil or rock type should only be performed under the supervision of an engineer or geologist.

A. Documents

1. Review the approved plans, specifications, and the geotechnical engineer's report.
2. Note and record the equipment being used on site.

B. Verification

1. Observe drilling operations and maintain complete and accurate records for each pier.
2. Verify locations of piers and their plumbness. Confirm pier diameters, bell diameters (if applicable), lengths, log of soil types embedment into bedrock (if applicable), and adequate end strata bearing capacity.
3. For concrete piers, perform additional inspections in accordance with C.B.C. Section 1704.4.
4. For masonry piers, perform additional inspections in accordance with C.B.C., Section 1704.5.

C. Sampling of Materials

1. Obtain samples of soil and rock if required by the geotechnical engineer of record for confirmation of classification or strength testing.

D. Testing

1. Perform testing of continuity of pier defects using geophysical methods if required by design professionals.

E. Reports

1. Submit written progress reports describing the tests and observations made and showing the action taken to correct nonconforming work.

B. STRUCTURAL

1. STRUCTURAL STEEL Work Type 2

The Statement of Special Inspections (SSI), prepared by the responsible design professional, will define the special inspection task(s) required. Qualified special inspectors who diligently perform the duties listed below while under the direct supervision of the materials engineering laboratory can best achieve this objective. To better achieve the objective of quality assurance, it is wise to use only one agency to fulfill the duties of both shop and field observation.

a. OBSERVATION DUTIES:

The customary practice of fabrication of steel in the shop prior to erection conveniently allows division of observation of structural steel into two basic categories, shop and field. While the purpose is to assure that proper quality control is exercised at each location, the environment differs. Often the shop is fabricating other projects concurrently and may operate two or three shifts per day. The shop work is closely related to mass production, while the fieldwork relates closer to handcrafting. Proper scheduling and coordination by the general contractor is paramount to proper inspections in both venues.

A. Documents

1. Review the approved plans and specifications, and review the approved shop drawings.
2. Review applicable sections of referenced codes, particularly the American Welding Society Structural Welding Code (AWS D1.1) and the Manual and Specifications of

the American Institute of Steel Construction (AISC).

3. Review all welding procedures (qualified and prequalified) per governing code.

B. Mill Test Reports

1. Review mill test reports and check heat numbers with material as received. Verify that proper identification of steel is maintained during fabrication.

C. Sampling and Testing

1. When required by project specifications, mark sample location with steel stamp on each piece tested.
2. Record sample number and location and check that sample identification is maintained as samples are delivered to laboratory and tested.
3. When steel members are delivered to finish length and no “crop ends” are available for sample cutting, coordinate cutting and patching requirements with architect/engineer and fabricator.

D. Welding Observation (Applicable to Shop and Field)

1. Check all welders’ certifications and verify that they work only as covered by their certification.
2. Keep a written record of all welders by name, their identifying steel mark, and the percentage of rejectable welds.
3. Upon detection of a rejectable weld (either visually or by nondestructive test), the inspector will notify the foreman for verification of defect. The inspector will observe removal of defects and repairs to check whether acceptable procedures were used.
4. Inspect joints for proper preparation, including bevel, root faces, root opening, etc.
5. Check the type and size of electrodes to be used for the various joints and positions. Check the storage facilities to see if they are adequate to keep the electrodes dry.
6. Observe the technique of each welder periodically with the use of a welding inspection shield.
7. Verify the use of Welding Procedure Specifications (WPS).
8. Observe multi-pass welds continuously. Continuous observation is defined as follows: The inspector is present in the welding area at all times. The extent of inspection of individual welds will depend on the number of operators welding.
9. Observe single pass fillet welds periodically (in accordance with C.B.C. Section 1704.3.1), after determining that the operator is capable of producing the welds required.
10. If straightening or restraining of weldments is necessary, verify that approved methods will be used.
11. Tag or stamp accepted weldments with the inspector’s identification stamp.

E. Workmanship

1. Check straightening and bending procedures.
2. Check cut edges, including those flame cut, sheared, or milled.
3. Check bolt holes for diameter size in major connections.

F. Additional Duties (if required by the SSI)

1. Verify that the welding sequence complies with approved construction documents.
2. Check steel frame joint details for compliance with approved construction documents, including details such as bracing and stiffening, member locations, and application of joint details at each connection.
3. During adverse weather conditions, check that adequate steps are taken to prevent Moisture penetration at welding location.

F. Reports

1. Submit written progress reports describing the tests and observations made and showing the action taken to correct nonconforming work. Itemize any changes authorized by architect/engineer. Report all uncorrected deviations from plans or specifications.

3. HIGH STRENGTH BOLTING Work Type 2

The purpose of high strength bolting observation (continuous or periodic) is to provide assurance that the proper bolt type(s) and installation procedures are used to meet the project specifications and applicable codes and industry standards. The Statement of Special Inspections, prepared by the responsible design professional, will define the special inspection task(s) required. Qualified special inspectors should diligently perform those duties while under the direct supervision of the materials engineering laboratory

a. OBSERVATION DUTIES:

The inspection of high-strength A325 and A490 bolts shall be in accordance with approved nationally recognized standards and the requirements of this section. While the work is in progress, the special inspector shall determine that the requirements for bolts, nuts, washers and paint; bolted parts; and installation and tightening in such standards are met. Such inspections may be performed on a periodic basis in accordance with the requirements of C.B.C. Section 1704.3.3.2. The inspector shall observe the calibration procedures when such procedures are required by the plans or specifications and shall monitor the installation of bolts to determine that all plies of connected materials have been drawn together and that the selected procedure is properly used to tighten all bolts.

A. Documents

1. Review the approved plans, specifications, and approved shop drawings.
2. Review applicable sections of referenced codes, particularly American Institute of Steel Construction (AISC) 360.

B. Mill Test Reports

1. Review mill test reports and check identification markings with material as received.

C. Sampling and Testing

1. Sample high strength bolts, washers, and nuts for testing from the lots in the shop or on the jobsite, if required.
2. Record sample information from each lot and check that sample identification is maintained as samples are delivered to laboratory and tested.

D. High Strength Bolting Observation

1. Review type of joint specified (i.e., slip-critical, bearing-type).
2. Check bolts, nuts, and washers for compliance to project specifications.
3. Review the procedure for installation of bolts. The amount and type of inspection during installation will depend on the method used (i.e., turn-of-nut calibrated wrench, twist-off bolts, direct tension-indicator washers).
4. Check joint surfaces to verify that they are free of burrs, dirt, etc.
5. Observe preinstallation testing and calibration procedures when required.
6. Verify all plies of connected materials have been drawn together and properly snugged.
7. Monitor the installation of bolts to verify the selected installation procedure is properly used to tighten bolts.
8. For joints requiring only snug-tight condition, verify connected materials have been

drawn together and properly snugged.

E. Reports

1. Submit written progress reports describing the tests and observations made and showing the action taken to correct nonconforming work. Itemize any changes authorized by architect/engineer. Report all uncorrected

2. REINFORCED AND PRESTRESSED CONCRETE Work Type 3

The Statement of Special Inspections, prepared by the responsible design professional, will define the special inspection task(s) required. Qualified special inspectors who diligently perform the duties listed below while under the direct supervision of the materials engineering laboratory can best achieve this objective.

a. OBSERVATION DUTIES: CONCRETE BATCH PLANT

The purpose of batch plant observation is to verify that the concrete supplier is exercising adequate quality control to produce concrete that will meet the project requirements for materials, their batch proportions, and mixing and adjustment for moisture.

A. Documents

1. Verify that the class of concrete ordered is being delivered and conforms to approved mix designs.

B. Equipment

1. Check the trucks for worn out or damaged fins, for excessive buildup of hardened concrete, and for the presence of wash water from the previous delivery.
2. Check the National Ready-mix Concrete Manufacturers Association truck rating plate and verify that load capacities are not exceeded.
3. Check the current "weights and measures" seal on scales.
4. Verify that the moisture-metering device is operable.
5. Verify that the scales start at and return to zero after each weighing operation.
6. Verify that the metering devices for admixtures have been calibrated recently and are operating.

C. Materials, Storage, and Handling

1. Visually check the sand and coarse aggregate for method of storage, handling, source, grading, cleanliness, and moisture condition.
2. Obtain samples of aggregates when specified or when it appears that they may not conform to the required gradation or cleanliness.
3. Obtain grab samples of cement and pozzolanic materials when required by project specifications.
4. Check cement temperature when required.
5. For lightweight aggregates, check loose moist unit weight regularly and verify whether the plant is making proper adjustments to batch weights to compensate for variations in weight as well as in moisture.

D. Batching of Materials

1. Record the volume in cubic yards for each class of concrete delivered. Verify that each mix proposed for delivery is of the proper designation and proportions approved for the project. Where discrepancies occur, request that the dispatcher clarify with the general contractor.
2. Verify that the specified materials are dispensed to the weigh hopper and record the

adjusted batch weights for all ingredients in the desired proportions of the concrete mix.

3. Verify that the proper adjustments have been made for variations in moisture of aggregates.
4. Record the mixing time and check whether it is sufficient.
5. Visually estimate the slump of the concrete and report immediately to the operator any slumps outside of specified tolerance.
6. Coordinate with the job site and verify the “as delivered” slump, air content, unit weight, mix temperature, general workability, and preparation of test samples.

E. Reports

1. Submit written progress reports describing the tests and observations made and showing the action taken to correct nonconforming work. Itemize any changes authorized by architect/engineer. Report all uncorrected deviations from plans or specifications.

b. OBSERVATION DUTIES: REINFORCING STEEL

The purpose of reinforcing steel observation (continuous or periodic) is to give assurance that the supplier is exercising satisfactory control over production, fabrication, and placing of reinforcing steel so that it meets the project specifications and applicable codes and industry standards.

A. Documents

1. Review the approved plans, specifications, and approved shop drawings.
2. Review applicable sections of referenced codes, such as: the California Building Code (ICC); the Building Code Requirements for Reinforced Concrete (ACI-318) by the American Concrete Institute (ACI); the Manual of Standard Practice of the Concrete Reinforcing Steel Institute (CRSI); the Reinforcing Steel Welding Code (AWS D1.4) by the American Welding Society (AWS).

B. Mill Test Reports

1. Verify reinforcing steel mill test reports (when available) for mill markings and test data, checking against project requirements.
2. Sample material for tests directly from unopened bundles when required by specifications.

C. Fabrication

1. Check each shipment of reinforcing steel for the following:
 - a) Bar sizes and grades are as specified.
 - b) Mill marking is in conformance with mill test reports.
 - c) Corrosion, contaminants, surface cracks, and bars damaged in shipment.
 - d) Shop bends for specified radius and cracks.

D. Placement

1. During placement of reinforcing, check for proper bar locations, alignment, laps, ties, form and ground clearance, supports, field bend radii and cracks, gouges or tack welds causing stress concentrations, removal of contaminants, and hardened concrete.
2. If welding of reinforcing is required, it should be observed as defined in CBC Table 1704.3(5b), with particular emphasis on joint configuration, suitability of low hydrogen electrodes, preheat and interpass temperatures, and interpass slag removal. Check for welding and procedures for conformance to AWS D1.4.
3. Prior to concrete placement, check for complete installation and notify contractor of any variations from plans and specifications. If variations are not corrected prior to

start of concreting, immediately notify the design team representative and the building office for appropriate action.

4. During concrete placement, check that reinforcing stays in place and is adequately supported. Check for removal of dirt, concrete spatter, grease, or other contaminants.
5. Check embedded items, including anchorages, inserts, and bolts installed in concrete for compliance to project documents. Verify they are solidly cast in place during placement of concrete.

E. Reports

1. Submit written progress reports describing the tests and observations made and showing the action taken to correct nonconforming work. Itemize any changes authorized by architect/engineer. Report all uncorrected deviations from plans or specifications.

c. OBSERVATION DUTIES: CONCRETE, FORMWORK AND EMBEDDED ITEMS

Many factors interact to affect the ultimate quality of concrete. To deal properly with these factors, quality assurance is divided into two recognized phases. The first involves collecting evidence from standard tests to verify that the delivered concrete was produced to the standards specified. The second involves verifying that proper construction practices are followed during placement, finishing, and curing.

A. Documents

1. Review the approved plans and specifications.
2. Verify that the class of concrete ordered is being delivered and conforms to specifications, drawings, and/or code requirements and approved mix design.

B. Observation Procedures

1. Verify formwork is of proper size and shape.
2. Verify that the location and preparation of construction joints comply to approved plans, specifications, and building code requirements.
3. Check forms for cleanliness and proper treatment prior to placement.
4. Inspect that embedded items are properly spaced, sized and anchored.
5. Visually estimate the slump of each batch delivered and perform slump tests regularly.
6. Determine concrete temperature, number of mixing revolutions, and/or length of time since batching.
7. Observe placement procedures for evidence of segregation, possible cold joints, displacement of reinforcing or forms, and proper support of embedded items, anchor bolts, etc.
8. Observe methods used for compaction/consolidation.
9. When specified, verify that concrete is protected from temperature extremes, and that proper curing is initiated.
10. When specified, verify maintenance of cure temperature and techniques.

C. Sampling and Testing Duties

1. Sample and test fresh concrete for the following (or as stipulated by plans and specifications):
 - a) Slump
 - b) Temperature
 - c) Entrained air, when required
 - d) Wet unit weight, when required
2. Sample concrete and prepare test cylinders in accordance with ASTM C31.

3. Field sampling and testing of concrete should be performed by a qualified technician, certified by ACI as a Concrete Field Testing Technician – Grade 1 (or approved equal)

D. Reports

1. Submit written progress reports describing the tests and observations made and showing the action taken to correct nonconforming work. Itemize any changes authorized by architect/engineer. Report all uncorrected deviations from plans or specifications.

d. OBSERVATION DUTIES: PRE-TENSIONED CONCRETE

Because the quality of materials used in Prestressed construction is more closely controlled than normal concrete construction, there has developed a strong quality system program by plant manufacturers. As a result, the purpose of pre-tensioned concrete plant observation is to verify the actual control program and to check its effectiveness.

A. Documents

1. Review the approved plans, specifications, and approved shop detail drawings.
2. Verify that concrete mix designs, tensioning data, and calculations for stressing have been approved by the reviewing authority.
3. Verify that jacking equipment has been calibrated.

B. Mill and Plant Test Reports

1. Check conformance of all materials to project specifications. Verify steel mill test reports for prestressing steel and deformed bar steel. Verify mill markings and tags. Verify cement mill test reports and certification.
2. Check fabricator's testing facility and reporting of tests performed under fabricator's quality control program.

C. Sampling

1. Sample and deliver or ship to the laboratory for testing the following when independent tests are required by project specifications:
 - a) Concrete aggregates
 - b) Prestressing strand or wire
 - c) Reinforcing steel
 - d) Steel used for structural steel embedded items

D. Steel Fabrication of Embedded Items

1. Verify that qualified welders are employed to perform welding of structural steel using welding procedures qualified in accordance with AWS Structural Welding Code.

E. Pre-Placement Observations

1. Bed layout and form cleanliness.
2. Quantity and spacing of reinforcing and stressing steel.
3. Location of inserts and embedded items.
4. Profile of stressing steel.
5. Witness tensioning of prestressing elements, measure elongation of strand, and record gauge pressure.

F. Tests and Observation During Casting

1. Perform batch plant observations.
2. Conduct slump, air, and unit weight tests. Request adjustments as necessary.
3. Cast compression test specimens.
4. Observe placement and vibration of concrete in forms.
5. Observe finishing treatment.

G. Post-Placement Tests and Observations

1. Observe curing procedures, temperatures, and curing cycles.
2. Monitor compressive strength results for specified release strength.
3. Witness stress transfer.
4. Identify member by component and date cast.

H. Field Erection

1. Check members for damage during storage or shipment.
2. Check field installation and structural connections.

I. Reports

1. Submit written progress reports describing the tests and observations made and showing the action taken to correct nonconforming work. Itemize any changes authorized by architect/engineer. Report all uncorrected deviations from plans or specifications.

e. OBSERVATION DUTIES: POST-TENSIONED CONCRETE

Post-tensioned concrete is normally constructed onsite rather than fabricated in plants. As a result, more responsibility is placed on the independent inspection agency to verify that quality control meets acceptable standards.

A. Documents

1. Review the approved plans, specifications, and approved placing and stressing drawings furnished by the post-tensioning contractor.
2. Review the reinforcing steel placing drawings to check whether they have been coordinated with the stressing drawings.

B. Mill Test Reports

1. Check that reinforcing steel and post-tensioning steel supplied to job is properly identified and mill test reports show conformance to project specifications.

C. Sampling of Materials

1. Sample and deliver to the laboratory for testing the following materials when required by project specifications:
 - a) Concrete aggregates and cement
 - b) Prestressing strand, rods, or wire
 - c) Reinforcing steel
 - d) Steel used for structural inserts

D. Steel Fabrication of Embedded Items

1. Visit fabrication plant.
2. Verify that qualified welders only are welding in accordance with AWS Structural Welding Code.
3. Verify that only qualified welding procedures are being used.
4. Observe the welding operations and the finished product for defects and verify that corrections are made, if necessary.

E. Pre-Placement Observations

1. Check the general layout, size, spacing, and profile of all reinforcing steel and post-tensioning steel.
2. Observe all anchorages, inserts, embedded items, blockouts, conduits, etc.
3. Calibrate or review current calibration data on the proposed stressing equipment.

F. Observation During Placement of Concrete

1. Observe batch plant operations when required.
2. Observe concrete placement and report any damage or misalignment of any embedded

- components (with particular emphasis at end anchorages).
- 3. Cast compression test specimens.
- 4. Test slump, air content, and unit weight. Request adjustment as necessary.

G. Stressing

- 1. Verify that the concrete compressive strength meets the minimum required strength prior to post-tensioning.
- 2. Check the stressing sequence and verify the required post-tensioning forces.
- 3. Call to the attention of the structural engineer any out of tolerance discrepancy in force-elongation relationship, spelled concrete, broken tendons, or anchorage slippage.
- 4. Verify friction losses where applicable.
- 5. When using bonded tendons, observe grouting procedure.

H. Reports

- 1. Submit written progress reports describing the tests and observations made and showing the action taken to correct nonconforming work. Itemize any changes authorized by architect/engineer. Report all uncorrected deviations from plans or specifications.

4. MASONRY Work Type 4

The Statement of Special Inspections, prepared by the responsible design professional, will define the special inspection task(s) required. Qualified special inspectors who diligently perform the duties listed below while under the direct supervision of the materials engineering laboratory can best achieve this objective.

a. OBSERVATION DUTIES:

A. Documents

- 1. Review the approved plans, specifications, and Statement of Special Inspections with the masonry contractor and architect's representative in a preconstruction meeting.
- 2. Verify whether high lift or low lift procedures have been approved and documented for use.

B. Mill Test Reports

- 1. Verify that mill test certifications for unit masonry, cement, reinforcing steel, and embedded anchors have been furnished by supplier and are acceptable to the architect/engineer.

C. Sampling of Materials

- 1. Sample and verify that the following materials are delivered to laboratory for testing when required:
 - a) Concrete block or brick
 - b) Aggregates and cement for mortar and grout
 - c) Reinforcing steel as delivered

D. Storage of Materials

- 1. Verify cement, lime, block, and brick are supported on pallets and covered to protect from exposure to excessive moisture or drying.
- 2. Verify aggregates for mortar and grout are stored free from contamination and in such a manner as to minimize segregation.
- 3. Verify reinforcement, ties, and metal accessories are stored off the ground and in a manner to prevent permanent distortions.

E. Preparation for Lay-Up

- 1. Verify size and spacing of reinforcing dowels.

2. Verify length of dowel protruding from footing is of sufficient length to allow for the splicing of vertical reinforcing steel as required.
3. Verify that foundation concrete is clean and prepared as required by specifications.

F. Lay-Up or Placing of Masonry Units

1. Verify that cleanouts are provided for first course of each pour, if high lift method is used.
2. Verify plumb and lay-up configuration.
3. Verify moisture condition of masonry units.
4. Verify that proper mortar ingredients and batching techniques are being used and prepare mortar compression test specimens.
5. Verify mortar time on board.
6. Verify that head joints are the same thickness as face shells or that full head joints are used when specified.
7. Verify that mortar extrusions (fins) are cleaned off inside.
8. Verify whether joints are tooled as specified.
9. Verify required frequency of masonry wall prisms and observe construction of same as specified.
10. Observe horizontal and vertical reinforcing steel to verify:
 - a) Reinforcing steel is of specified size and grade.
 - b) Reinforcing steel is located and spliced as specified.
 - c) Lap splices are staggered in bond beams and corners as required.
 - d) Hooks are specified size and bent as required.
 - e) Ties are specified size, spacing, and bent as required.
 - f) Reinforcing steel is properly secured and minimum clearances are as required.
11. Verify embedded items are:
 - a) Placed at proper location and secured.
 - b) Proper size and clearances are as required.
12. Verify masonry is protected from weather:
 - a) When ambient or CMU temperature falls below 40°F.
 - b) When ambient temperature exceeds 100°F or 90°F (wind velocity greater than 8 mph).

G. Pre-grouting Tasks

1. Verify that cells and starting beds are clean.
2. Verify dowels, anchor bolts, and inserts are all in place, particularly at rooflines, floor lines, and intersecting wall lines.
3. Verify installation of cleanout closures.

H. Grouting Observations

1. Verify grout mix for conformance to approved mix design.
2. Verify slump is in accordance with the specifications.
3. If low lift grouting, verify maximum masonry height is in accordance with the code before grouting.
4. Verify consolidation (mechanical vibrating or puddling) during placement, and later during reconsolidation.
5. Monitor time since batching of grout.
6. Monitor flow of grout throughout wall and each grout pour height for conformance to specifications.
7. Preparation of any required grout specimens and/or prisms shall be observed. Note mortar specimens are no longer required.

8. Verify grout is stopped below top for keying where required.
9. Verify curing requirements are being followed.

I. Reports

1. Submit written progress reports describing the tests and observations made and showing the action taken to correct nonconforming work. Itemize any changes authorized by architect/engineer. Report all uncorrected deviations from plans or specifications.

5. SHOTCRETE JOB TASKS. Work Type 3

The Statement of Special Inspections, prepared by the responsible design professional, will define the special inspection task(s) required. Qualified special inspectors who diligently perform the duties listed below while under the direct supervision of the materials engineering laboratory can best achieve this objective.

a. OBSERVATION DUTIES:

The purpose of special observation for shotcrete is to verify that the materials, processes, and the particularly unique application techniques conform to the project documents. The process moves rapidly in often noisy and congested environments; it relies heavily on experienced working crews.

A. Documents

1. Review the approved plans, specifications, and contractor submittals for applications process used.
2. Verify crew qualifications.
3. Verify material sources and approved mix design.
4. Verify test methods and sample procedure.

B. Observation Procedures

1. Verify main and auxiliary equipment for compliance, capacity, pressures, and proper functioning.
2. Check for hot or cold weather limitations and precautions.
3. Verify reinforcing is proper type, grade, and size; free of oil, dirt, and rust; properly coated and/or sheathed as specified; located within acceptable tolerances and adequately supported; and will allow for minimum shotcrete cover.
4. Verify that placement of reinforcing steel (or ducts) complies with spacing, profile, and quantity requirements.
5. Verify hooks, bends, ties, stirrups, and supplemental reinforcement are fabricated and placed as specified.
6. Verify required non-contact lap lengths.
7. Verify proper installation of approved mechanical connections and/or bolts.
8. Ensure all welds of reinforcing steel and other weldments are as specified and have been inspected and approved by welding inspector.
9. Verify formwork is proper size and shape; location of all construction joints; and penetrations and embeds are correct and adequately supported.
10. Check for ground wires or other thickness gauging control method.
11. Verify the nozzleman has suitable shooting positions and access to achieve placement with minimal rebound.
12. Review mixing and placing procedures with crew before commencement of application.
13. Verify that batch tickets indicate delivery of the approved mix as specified.

14. Observe placement for:

- a) Consistency
- b) Consolidation
- c) Coverage
- d) Rebound
- e) Finish

15. Check completed job for defects and corrective action.

16. Verify protection from temperature extremes and determine proper curing is initiated.

C. Sampling and Testing

1. Determine required type, quantity, and frequency of tests on fresh and hardened shotcrete.
2. When required, observe preparation of preconstruction test panel(s), simulating job conditions as closely as possible. The panel(s) thickness and reinforcing should represent:
 - a) Most congested area specified in the structural design.
 - b) Shot at the same angle, using the same nozzleman, and with the same mix design that will be used.
 - c) Same equipment to be used during construction, unless substitution has been approved by the Building Official.
3. During construction, observe preparation of a test panel (either 18" x 18" or 12" x 12" based on aggregate size), or as otherwise specified, to obtain suitable cores for testing. Arrange correct positioning of sample panel to represent job shotcrete. Prearrange with nozzleman the correct timing of the test sample preparation and verify that it is representative of job placement, finish, and cure. Refer to ACI 506 for further guidance.
4. Strength testing requires not less than three specimens from each panel. Specimens shall be either 3" diameter cores or 3" cubes when maximum-size aggregate is larger than 3/8". Specimens shall be at least 2" diameter cores or 2" cubes when maximum-size aggregate is 3/8" or smaller.
5. Mark panel with specimen identification, protect for curing period, and arrange for transportation to the testing laboratory.

D. Reports

1. Submit written progress reports describing the tests and observations made and showing the action taken to correct nonconforming work. Itemize any changes authorized by architect/engineer. Report all uncorrected deviations from plans or specifications.

6. WOOD CONSTRUCTION - HIGH-LOAD DIAPHRAGMS Work Type 5

The Statement of Special Inspections, prepared by the responsible design professional, will define the special inspection task(s) required. Qualified special inspectors who diligently perform the duties listed below while under the direct supervision of the materials engineering laboratory can best achieve this objective.

a. OBSERVATION DUTIES:

The California Building Code is now requiring special inspection during the construction of the wood structural panel sheathing shear walls and systems used as high load (shear) diaphragms. These are critically important elements to the structural integrity of the building, and are therefore considered appropriate for special inspection. This guideline is intended for use in site-built

structural wood assemblies. Prefabricated wood structural elements and assemblies require special inspection as specified in CBC Section 1704.2.

A. Documents

1. Review the approved plans, specifications, and other appropriate project documents.
2. Review applicable sections of referenced codes and standards, particularly the Timber Construction Manual by the American Institute of Timber Construction (AITC) and the California Building Code (CBC).

B. Materials

1. Verify material grades.
2. Verify nail type and size.

C. Sampling of Materials

1. Sample and deliver to the laboratory for testing the following materials when required by project specifications:
 - a) Structural panel sheathing (i.e., plywood, gypsum, fiberboard, or particleboard)
 - b) Framing lumber
 - c) Fasteners used in attaching the sheathing including nails and screws.

D. Observation Procedures

1. Check nail spacing, penetration, and edge distance, and verify nail size.
2. Check for proper plywood thickness and grade.
3. Check for installation of blocking, when blocked edges are required.
4. Check the receiving members for spacing, size, and resistance to splitting.
5. Check for proper plywood layout per project requirements.
6. Check for “shiners” (nails penetrating structural panel sheathing only).
7. Verify that critical members have received the nail specified.

E. Gluing Operations

1. Materials
 - a) Verify certifications on lumber grading, adhesives, and preservatives.
 - b) Verify lumber grade marks on the pieces being used.
2. Observation Requirements – Preliminary
 - a) Verify that spacing of joints meets job and code requirements.
 - b) Measure moisture content of lumber and verify with acceptance range specified.
 - c) Check appearance grade requirements.
 - d) Verify preservative treatment requirements.
3. Observation of Sub-Assemblies
 - a) Verify lumber grade at end joints.
 - b) Gluing and curing procedure, verification of following:
 - Lumber moisture, temperature, and cross-section
 - Workroom humidity and temperature
 - Adhesive certification, lot, and
 - Temperature
 - Joint match and separation
 - Assembly temperature, pressure, and time
4. Laminating (Gluing)
 - a) Recheck lumber grades, combinations and faces, moisture, and temperature.
 - b) Record workroom temperature and humidity.
 - c) Adhesive certification, lot verification, and temperature.
 - d) Gluing and curing:

- Observe glue spread and check for skips.
- Record open time prior to clamping.
- Record clamping pressure.
- Record curing temperature and time.

G. Reports

1. Submit written progress reports describing the tests and observations made and showing the action taken to correct nonconforming work. Itemize any changes authorized by architect/engineer. Report all uncorrected deviations from plans or specifications.

7. POST INSTALLED ANCHORS and DOWELS Work Types 3, 4 & 21

The Statement of Special Inspections, prepared by the responsible design professional, will define the special inspection task(s) required. Qualified special inspectors who diligently perform the duties listed below while under the direct supervision of the materials engineering laboratory can best achieve this objective.

a. OBSERVATION DUTIES:

Post installed anchors and dowels involve those systems installed typically into concrete or masonry after it is hardened. Most of these anchor systems require drilling or coring to accomplish the installation. Many of these systems specify special inspection and/or testing to qualify them for certain load capacity. Anchor installation inspection occurs during the installation process to verify the required procedures were followed. Anchor proof load testing occurs after the installation and may be specified for tension (pull-out) or torque (with wrench). Project requirements may require installation inspection or proof load testing and some may require both.

OBSERVATION DUTIES FOR ANCHOR/DOWEL INSTALLATION

A. Documents

1. Review the approved plans, specifications, and other appropriate project documents.
2. Review applicable sections of referenced codes and standards, particularly the product manufacturers specifications and, if available, the ICC Evaluation Service (ES) Reports.

B. Materials

1. Verify brand or manufacturer of anchor.
2. Verify brand or manufacturer of epoxy or grout.
3. Verify the expiration dates on epoxies

C. Sampling of Materials

1. If required sample the materials in accordance with specified standards required.
2. Refer to the material engineering laboratory for direction in sampling procedures and specimen.

D. Observations Procedures

1. Identify the substrate as standard concrete, lightweight concrete, CMU, or brick.
2. Report the design strength of the concrete and age if known.
3. Report the orientation of the hole.
4. Check the anchor for size (diameter) and length
5. Check the epoxy for approved use
6. Check epoxy is proper for application
7. Verify drill or core size meets manufacture specs
8. Check diameter of hole and depth of holes

9. Check cleanliness of hole
10. Check holes spacing for compliance to specifications
11. Check holes after placement of inserts to verify fullness of epoxy contact.
12. Record ambient temperature and note if outside of specified range.

OBSERVATION DUTIES FOR PROOF LOAD TESTING OF INSTALLED ANCHORS/DOWELS

A. Documents

1. Review the approved plans, specifications, and other appropriate project documents.
2. Verify the type of test load that is required (tension or torque).
3. Verify the frequency of tests that are required.
4. Verify the test load value is specified and approved as required. The special inspector is not authorized to determine the test value if it is not specified.
5. Review applicable sections of referenced codes and standards, particularly the Production manufacturers specifications and, if available, the ICC Evaluation Service (ES) Reports.

B. Materials

1. Record the type of anchor system and epoxy reported as being used, and identify to source of this information. The anchor system cannot be verified unless the installation as witnessed.

C. Observations Procedures

1. Record the proof load equipment being used: rams, gauges, torque wrenches.
2. Verify the proof load equipment has been calibrated and record expiration date if available.
3. Identify any proof loading fixtures being used (load frames) and how they were set up.
4. Describe the anchor type, make, and model reported including diameter and length.
5. Record the testing location within the structure.
6. Record the proposed use of the anchor.
7. Record the quantity of anchors tested (passed and failed).
8. Record the quantity of anchors that were retested (passed and failed).
9. Record the percent anchor tested within that particular location of the structure.
10. Anchors which fail need to include remarks indicating what is being done about them in the future.
11. Record how the tested anchors were marked (pass–green, fail–red) or not.
12. Identity who was notified of the results of the testing.
13. Identify where the specified test loads were obtained.

D. Reports

1. Submit written progress reports describing the tests and observations made and showing the action taken to correct nonconforming work. Itemize any changes authorized by architect/engineer. Report all uncorrected deviations from plans or specifications.

8. REINFORCED GYPSUM CONCRETE JOB TASKS

Work Type 3

The inspection of reinforced gypsum concrete shall be as determined by the Building Official and Registered Design Professional in Responsible Charge (RDPRC) and be defined at the pre-constructions conference.

9. INSULATING CONCRETE FILL JOB TASKS

Work Type 3

The inspection of Insulating concrete fill shall be as determined by the Building Official and Registered Design Professional in Responsible Charge (RDPRC) and be defined at the pre-construction conference.

10. SEISMIC RESISTANCE OF STRUCTURES, SYSTEMS & COMPONENTS

Work Types 15, 21 & 22

Special inspections itemized in C.B.C. Sections 1707.2 through 1707.9, unless exempted by the exceptions of C.B.C. Section 1704.1, 1705.3, or 1705.3.1, are required for the following:

1. The seismic-force-resisting systems in structures assigned to Seismic Design Category C, D, E or F, as determined in C.B.C. Section 1613.
2. Designated seismic systems in structures assigned to Seismic Design Category D, E or F.
3. Architectural, mechanical and electrical components in structures assigned to Seismic Design Category C, D, E or F that are required in C.B.C. Sections 1707.6 and 1707.7.

a. Structural Steel. (C.B.C. 1707.2)

Continuous special inspection is required for structural welding in accordance with AISC 341.

- Exceptions:
1. Special inspections of structural steel in structures assigned to Seismic Design Category C that are not specifically detailed for seismic resistance, with a response modification coefficient, R , of 3 or less, excluding cantilever column systems.
 2. For ordinary moment frames, ultrasonic and magnetic particle testing of complete joint penetration groove welds are only required for demand critical welds.

b. Structural Wood. (C.B.C., 1707.3)

Continuous special inspection is required during field gluing operations of elements of the seismic-force-resisting system. Periodic special inspection is required for nailing, bolting, anchoring and other fastening of components within the seismic-force-resisting system, including wood shear walls, wood diaphragms, drag struts, braces, shear panels and hold-downs.

- Exception: Special inspection is not required for wood shear walls, shear panels and diaphragms, including nailing, bolting, anchoring and other fastening to other components of the seismic-force-resisting system, where the fastener spacing of the sheathing is more than 4 inches on center (o.c.).

c. Cold-formed Steel Framing. (C.B.C., 1707.4)

Periodic special inspection is required during welding operations of elements of the seismic-force-resisting system. Periodic special inspection is required for screw attachment, bolting, anchoring and other fastening of components within the seismic-force-resisting system, including shear walls, braces, diaphragms, collectors (drag struts) and hold-downs.

- Exception: Special inspection is not required for cold-formed steel light-frame shear walls, braces, diaphragms, collectors (drag struts) and hold-downs where either of the following apply:
1. The sheathing is gypsum board or fiberboard.

2. The sheathing is wood structural panel or steel sheets on only one side of the shear wall, shear panel or diaphragm assembly and the fastener spacing of the sheathing is more than 4 inches o.c.

d. Storage Racks and Access Floors. (C.B.C., 1707.5)

Periodic special inspection is required during the anchorage of access floors and storage racks 8 feet or greater in height in structures assigned to Seismic Design Category D, E or F.

e. Architectural Components. (C.B.C., 1707.6 & S.M.M.C. C.B.C. Amended 1704.17)

Periodic special inspection during the erection and fastening of exterior cladding, interior and exterior nonbearing walls and interior and exterior veneer in structures assigned to Seismic Design Category D, E or F.

- Exceptions:
1. Special inspection is not required for exterior cladding, interior and exterior nonbearing walls and interior and exterior veneer 8 feet or less in height above grade or walking surface.
 2. Special inspection is not required for exterior cladding and interior and exterior veneer weighing 5 psf or less unless over 8 feet.
 3. Special inspection is not required for interior nonbearing walls weighing 15 psf or less unless over 8 feet.

f. Mechanical and Electrical Components. (C.B.C., 1707.7)

Special inspection for mechanical and electrical equipment shall be as follows:

1. Periodic special inspection is required during the anchorage of electrical equipment for emergency or standby power systems in structures assigned to Seismic Design Category C, D, E or F;
2. Periodic special inspection is required during the installation of anchorage of other electrical equipment in structures assigned to Seismic Design Category E or F;
3. Periodic special inspection is required during installation of piping systems intended to carry flammable, combustible or highly toxic contents and their associated mechanical units in structures assigned to Seismic Design Category C, D, E or F;
4. Periodic special inspection is required during the installation of HVAC ductwork that will contain hazardous materials in structures assigned to Seismic Design Category C, D, E or F; and
5. Periodic special inspection is required during the installation of vibration isolation systems in structures assigned to Seismic Design Category C, D, E or F where the construction documents require a nominal clearance of 0.25 inches or less between the equipment support frame and restraint.

g. Designated Seismic System Verifications.

The special inspector shall examine designated seismic systems requiring seismic qualification in accordance with C.B.C. Section 1708.4 and verify that the label, anchorage or mounting conforms to the certificate of compliance.

h. Seismic Isolation System.

Periodic special inspection is required during the fabrication and installation of isolator units and energy dissipation devices that are part of the seismic isolation system.

C. ARCHITECTURAL

The Statement of Special Inspections, prepared by the responsible design professional, will define the special inspection task(s) required. Qualified special inspectors who diligently perform the duties listed below while under the direct supervision of the materials engineering laboratory can best achieve this objective.

1. FIRE-RESISTANT MATERIALS - FIREPROOFING Work Type 10

a. OBSERVATION DUTIES: SPRAYED

The purpose of spray-applied fire-resistant materials observation is to verify that the application of material is in accordance with the project specifications, applicable codes, and manufacturer's recommendations. Proper scheduling and coordination by the general contractor is imperative

A. Documents

1. Review the approved plans, specifications, and manufacturer's recommendations.
2. Review applicable sections of referenced codes and standards (CBC Section 1704.12, AWCI 12-A).

B. Observation Procedures

1. Verify substrate condition for cleanliness prior to application.
2. Verify application in accordance with code, referenced standard, and specifications.

C. Testing and Sampling Duties

1. Measure thickness of spray-applied fire-resistive material in accordance with specifications, C.B.C. Section 1704.12 and AWCI 12-A.
2. Remove and deliver samples to materials engineering laboratory for unit weight tests.
3. Perform cohesive/adhesive bond strength tests per ASTM E736.
4. Re-inspect areas repaired due to insufficient thickness or damage by sampling, tenant improvements, panel placement, rain, etc. (This work must be scheduled and coordinated by the general contractor.)

D. Reports

1. Submit written progress reports describing the tests and observations made and showing the action taken to correct nonconforming work. Itemize any changes authorized by architect/engineer. Report all uncorrected deviations from plans or specifications.

b. OBSERVATION DUTIES: MASTIC & INTUMESCENT Work Type 11

The purpose of mastic and intumescent fire-resistant coatings observation is to verify that the application of material is in accordance with the project specifications, applicable codes, and manufacturer's recommendations. Proper scheduling and coordination by the general contractor is imperative.

A. Documents

1. Review the approved plans, specifications, and manufacturer's recommendations.
2. Review applicable sections of referenced codes and standards (CBC Section 1704.13, AWCI 12-B).

B. Observation Procedures

1. Verify substrate condition for cleanliness prior to application.
2. Verify application in accordance with code, referenced standard, and specifications.

C. Testing Duties

1. Measure thickness of mastic or intumescent coating in accordance with specifications, C.B.C. Section 1704.13 and AWCI 12-B.
2. Re-inspect areas repaired due to insufficient thickness or damage by sampling, tenant improvements, panel placement, rain, etc. (This work must be scheduled and coordinated by the general contractor.)

D. Reports

1. Submit written progress reports describing the tests and observations made and showing the action taken to correct nonconforming work. Itemize any changes authorized by architect/engineer. Report all uncorrected deviations from plans or specifications.

2. EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS) Work Type 12 **Special inspections shall be required for all EIFS applications. (C.B.C., 1704.14)**

Exceptions:

1. Special inspections shall not be required for EIFS applications installed over a water-resistive barrier with a means of draining moisture to the exterior.
2. Special inspections shall not be required for EIFS applications installed over masonry or concrete walls.

Water-resistive barrier coating. (C.B.C., 1704.14.1)

1. A water-resistive barrier coating complying with ASTM E 2570 requires special inspection of the water-resistive barrier coating when installed over a sheathing substrate.

D. ELECTRICAL Work type 16

1. INSTALLATION JOB TASKS

a. Ground-Fault Protection Performance Test

1. Visual Inspection:

- I. Inspect for physical damage and compliance with engineered drawings and specifications.
- II. Verify proper nameplate markings and ratings.
- III. Verify integrity of grounded conductor.
- IV. Verify pickup and time delay settings are in accordance with settings provided by the engineer.

2. Mechanical Inspection:

- I. Inspect for proper mechanical operation.

3. Electrical Tests:

- I. Tests shall comply with engineered plans and specifications.
- II. Tests shall be performed in accordance with manufacturers recommendations or nationally recognized standards and practices.
- III. Test grounded conductor insulation resistance to ground.
- IV. Test relay pickup current by current injection at the sensor and operate the circuit interrupting device.
- V. Test relay timing.
- VI. Test primary control voltage at not more than 57 percent of its rated voltage.

- b. Switchboards, Panelboards, Motor Control Centers and Other Equipment Rated 1000 Amperes or more, or over 600 volts.**
- 1. Visual Inspection:**
 - I.** Inspect for physical damage and compliance with engineered drawings and specifications.
 - II.** Verify proper nameplate markings and ratings.
 - III.** Inspect for proper anchorage, support and alignment.
 - IV.** Verify barrier installation.
 - V.** Verify connection and termination points for proper torque and alignment.
 - 2. Mechanical Inspection:**
 - I.** Inspect interlocks, switches, draw-out breakers, and auxiliary devices for proper mechanical operation.
 - 3. Electrical Tests:**
 - I.** Tests shall comply with engineered plans and specifications.
 - II.** Tests shall be performed in accordance with manufacturers' recommendations or nationally recognized standards and practices.
 - III.** Test grounded conductor insulation resistance and verify continuity of equipment grounding system.
 - IV.** Perform insulation resistance test on each bus and protective device. Test phase-to-phase and phase-to-ground.
 - V.** Perform dielectric voltage-withstand test on each bus and protective device. Test phase-to-phase and phase-to-ground.
 - VI.** Perform phase test on double-ended systems.
 - VII.** Test control power transformer, control power circuits and potential circuits.
 - VIII.** Test control and protective devices for proper operation.
- c. Transformers rated 100 KVA or more Single Phase and 300 KVA or more three phase.**
- 1. Visual a Inspection:**
 - I.** Inspect for physical damage and compliance with engineered drawings and specifications.
 - II.** Verify proper nameplate markings and ratings.
 - III.** Inspect for proper anchorage and support.
 - IV.** Inspect for proper equipment and core grounding.
 - V.** Verify compliance with manufacturer installation requirements.
 - 2. Mechanical Inspection:**
 - I.** Inspect auxiliary devices for proper mechanical operation.
 - 3. Electrical Tests:**
 - I.** Tests shall comply with engineered plans and specifications.
 - II.** Tests shall be performed in accordance with manufacturer recommendations or nationally recognized standards and practices.
 - III.** Perform insulation resistance test on each winding. Test winding-to-winding and windings-to-ground.
 - IV.** Perform a turns-ratio test for each winding at all tap settings.
 - V.** Test control power transformer, control power circuits and potential circuits.
 - VI.** Test control and protective devices for proper operation.
- d. Conductors that Supply Equipment Rated at 1000 Amperes or More, or Over 600 Volts**

1. **Visual Inspection:**
 - I. Inspect for physical damage and compliance with engineered drawings and specifications.
 - II. Verify proper markings and ratings.
 2. **Electrical Tests:**
 - I. Tests shall comply with engineered plans and specifications.
 - II. Tests shall be performed in accordance with manufacturer recommendations or nationally recognized standards and practices.
 - III. Perform insulation resistance test on each conductor. Test phase-to-phase and phase-to-ground.
 - IV. Perform dc high-potential test on each conductor. Test phase-to-phase and phase-to-ground.
- a. **Emergency and Standby Power Systems: Switchboards, Panelboards, Distribution Boards, Transfer Equipment, Power Source, Conductors, Fire Pumps, Exhaust and Ventilation Fans.**
1. **Visual Inspection:**
 - I. Inspection for physical damage and compliance with engineered drawings and specifications.
 - II. Verify proper markings, ratings and signs.
 - III. Inspect equipment for proper anchorage and support.
 - IV. Inspection for proper barriers, separation, protection and location.
 - V. Verify instruction manuals, special tools, testing devices, and manufacturer recommended spare parts are available.
 - VI. Verify maintenance and operational testing program is in place and maintained on the premises.
 2. **Mechanical Inspection:**
 - I. Inspect equipment for proper mechanical operation.
 - II. Verify functional operation of system. Perform manual transfer operation.
 3. **Electrical Tests:**
 - I. Tests shall comply with engineered plans and specifications.
 - II. Tests shall be performed in accordance with manufacturer recommendations or nationally recognized standards and practices.
 - III. Test control and protective devices for proper operation.
 - IV. Perform phase rotation test
 - V. Perform insulation resistance test on feeder conductors and equipment. Test phase-to-phase and phase-to-ground
 - VI. Perform automatic load transfer test. Test normal and emergency power, or normal and standby power, or both. Simulate loss of emergency and normal power or standby and power, or both. Simulate all forms of single-phase conditions.
 - VII. Conduct operational test on system under load conditions.
- b. **Hazardous Locations.**
The inspection of the installation or alteration of electrical systems within locations classified as hazardous by provisions of the California Electrical Code, except for gasoline dispensing installations and systems located within storage garages, repair garages or lubricatoriums shall be as determined by the Building Official and Registered

Design Professional in Responsible Charge (RDPRC) and be defined at the pre-constructions conference.

E. MECHANICAL AND PLUMBING

1. SMOKE CONTROL SYSTEMS (C.B.C., Section 909) Work Type 14

a. General Requirements:

C.B.C., Section 1704.16 requires Special Inspection for Smoke Control. Smoke Control Special Inspection includes, but is not limited to, observation and testing of the work assigned for conformance with the approved design drawings and specifications.

The Smoke Control Special Mechanical Inspector(s) shall be a qualified person(s) who demonstrates competence to the satisfaction of the building official for the type of works requiring Special Inspection(s). The Building Official shall rely on the engineer or architect responsible for the special inspection(s) to determine the individual(s) or firm(s) qualified to perform each type of test or inspection. These individual(s) or firm(s) shall be responsible for performing the special inspection tasks and preparing the report(s) as required by the code and regulations.

The Smoke Control Special Mechanical Inspector(s) shall be employed by the owner or the registered design professional in responsible charge acting as the owner's agent, but not the contractor or any person responsible for the work.

b. Registered Design Professional in Responsible Charge:

Complete all information requested on the Mechanical Special Inspections Certificate. Indicate the types of work requiring Smoke Control Special Mechanical Inspections and the approved qualified Individual(s) or Firms(s) authorized to perform each such inspection. Seal, sign and date the Certificate. Submit the completed certificate to the City of Santa Maria with the permit application and prior to project final inspection with the final report.

c. Special Inspector:

The individual(s) or firm(s) responsible for the Smoke Control Special Mechanical Inspections shall complete a signed written report after each site visit requiring Special Inspection. The Special Inspector(s) shall ensure that all reports are posted with the permit at the job site and are available to the City of Santa Maria Building Inspector for review. All discrepancies shall be brought to the immediate attention of the contractor for correction and, if uncorrected, to the registered design professional in responsible charge to the City of Santa Maria Building Inspector.

d. The Smoke Control Special Mechanical Inspector shall, during construction:

- 1.** Review the smoke-control system design package and Fire/Life-Safety Report.
- 2.** Inspect the erection of ductwork, and prior to concealment for the purposes of leakage testing and recording of devices location.
- 3.** The duct material and joints shall be inspected and documented to insure that they can withstand the probable temperatures to which they are exposed as determined per C.B.C., Section 909.10.1 Equation 9-3.

4. Insure and record that duct installations are constructed and supported in accordance with the Mechanical Code. The supports shall be substantial and noncombustible.
 5. Record the nameplate data of all dampers and fans and location in the ductwork that may supply air or exhaust smoke. Insure that they are listed for the intended use and conform to approved recognized standards. Damper shall be a minimum Class II, 250 of and listed in accordance with approved recognized standards.
 6. Check and record the location of all smoke control inlets and outlets as to minimize the potential for introducing smoke or flame into the building and to limit exposure of the building or adjacent building to an additional fire hazard.
 7. Test smoke-control ducts for a leakage at 1.5 times the maximum design pressure in accordance with nationally accepted practices. Measured leakage shall not exceed 5 percent of the design flow. These results shall be documented in the final report.
 8. Insure that all fans have a minimum of two belts and/or have 1.5 times the number of belts required for the design duty. Calculation and manufacturer's fan curves shall be documented. Insure that the fans are supported and restrained by noncombustible devices. Record nameplate data and test actual current draw to insure that the fan so not operate beyond their nameplate horsepower (kW). Motors driving the fans shall have a minimum service factor of 1.15.
- e. **The Special Smoke Control Inspector shall, prior to occupancy and after sufficient completion for the purpose of pressure difference testing, flow measurements, and detection and control verification:**
1. Review the smoke-control system design package and the Fire/Life-Safety Report.
 2. The following shall be tested, verified and recorded for all three methods (pressurization, airflow, and exhaust):
 - I. The standby power source and its transfer switches shall be in a separate room from the normal power transformers and switchgear and shall be enclosed in a room of not less than one-hour fire-resistive construction, ventilated directly to and from the exterior. Power distribution from the two sources shall be by independent routes.
 - II. Transfer to full standby power shall be automatic and within 60 seconds of failure of the primary power.
 - III. Elements relying on volatile memories or the like shall be supplied with uninterruptible power sources of sufficient duration to span 15-minute primary power interruption.
 - IV. Elements susceptible to power surges shall be suitably protected by conditioners, suppressors or other approved means.
 - V. All wiring shall be fully enclosed within continuous raceway.
 - VI. Fire-detection and control systems shall be supervised at the fire control panel and provide positive confirmation of actuation, testing of devices, manual override mechanisms and the presence of power downstream of all disconnects.
 - VII. Sensing of damper position shall be by limit or proximity switches.
 - VIII. Sensing of airflow shall be by differential pressure transmitters.
 - IX. Smoke-control system shall activate in accordance with the design package and the Fire/Safety Line Report.
 - X. Smoke detector and other fire alarm devices that activate the smoke-control system shall be listed, installed and tested in accordance with the Fire Code.

- XI. Control air tubing shall be metallic and adequately supported and protected from damage. Tubing other than for smoke-control shall be isolated by automatic isolation valves or be an independent system. All tubing shall be tested at three time operating pressure for not less than 30 minutes without any noticeable loss in gage pressure.
- XII. All detection and control system shall be clearly marked at all junctions, accesses and terminations.

f. Final Report:

The Smoke Control Special Mechanical Inspector shall submit a final signed report to the **Registered Design Professional in Responsible Charge (RDPRC)** and to the City of Santa Maria Building Official. The report must include the identification of all devices by manufacturer, nameplate data, design values, measured values, and identification tag or mark. The report shall be reviewed by the responsible designer, and when satisfied that the design intent and construction has been achieved, the responsible designer shall affix the designer's seal, signature and date to the report with the following statement provided:

“I have reviewed this report and by personal knowledge and on-site observation certify that the smoke-control system is in substantial compliance with the design intent, and to the best of my understanding complies with the requirements of the City of Santa Maria Construction Code.”

Final inspection approval and/or issuance of a Certificate of Occupancy will not occur until all Special Inspection Reports have been received and found to be acceptable by the City of Santa Maria Building Official.

2. AUTOMATIC SHUTOFF FOR AIR DISTRIBUTION SYSTEMS Work Type 17

a. General Requirements:

When automatic shutoff is required by C.M.C. Section 609, the owner or the engineer or architect of record acting on behalf of the owner shall employ a qualified third party special inspector or testing agency to verify that all required automatic shutoff's have been installed and function properly. The special inspector/testing agency shall be an Associated Air Balance Council (AABC), National Environmental Balancing Bureau (NEBB) certified Air Balancing Firm, or the Engineer of Record, or shall otherwise demonstrate qualifications to the engineer or architect of record. The special inspector/testing agency shall be independent from the installing contractor.

b. Registered Design Professional in Responsible Charge:

Complete all information requested on the Mechanical Special Inspections Certificate. Indicate the types of work requiring Mechanical Special Inspections and the qualified Individual(s) or Firms(s) authorized to perform each such inspection. Seal, sign and date the Certificate. Submit the completed certificate to the City of Santa Maria with the permit application and prior to project final inspection with the final report.

c. Special Inspector or Testing Agency Shall Perform the Following Tasks:

1. Visual Inspection

- I. Verify installation of an automatic shutoff device in each location shown on the approved plans.
- II. Identify all automatic shutoff devices by manufacturer, nameplate data, and listing identifications or marks.
- III. Inspect for proper anchorage, support, alignment and location in compliance with manufacturer's installation instructions and listing requirements.

2. Electrical Inspection

Verify installation of system controls (smoke detector, duct detector, Smoke detection system and any associated electrical wiring) are in compliance with the manufacturer's installation instructions and listing requirements and the California Electrical Code.

3. Functional Tests

- I. Test each automatic shutoff device individually for proper operation.
 - a. Perform a pressure differential (Delta P) test using a Manometer and Pitot Tube to measure the required air movement across the smoke detector as required by the Manufactures Installation instructions.
Exception: Delta-P test is not required on factory installed smoke detectors internal to the H.V.A.C. equipment.
 - b. Perform canned smoke detector test directly on the smoke detector to verify automatic shut-off. Magnet Tests are not an approved means of testing by the City of Santa Maria.
- II. Verify audio and visual signal from the appropriate smoke detector, duct detector, or smoke detection system.
- III. Verify that the automatic shutoff device interrupts the power and de-energizes all air-handling unit(s) and/or air distribution systems served.

4. Reports

The special inspector shall furnish site visit inspection reports to the building official, the mechanical engineer or architect of record, and other designated persons. All discrepancies shall be brought to the immediate attention of the contractor for correction, then, if uncorrected, to the proper design authority and to the city building inspector.

5. Final Report:

- I. Prior to final inspection, a final report prepared by the Special Inspector shall be provided to the City of Santa Maria Building Official and Registered Design Professional in Responsible Charge certifying that the duct smoke detectors have been installed as per the approved plans and design and denote if the tested devices passed their inspection. A copy of the completed original, or revised, Mechanical and Plumbing Special Inspections Certificate and the Special Inspectors NEBB or AABC Certification shall be attached to the final report.
- II. The Special Inspection report shall be received and found to be acceptable by the City of Santa Maria Building Official and the Registered Design Professional in Responsible Charge prior to the City issuance of final inspection approval or occupancy approval, including conditional occupancy approval.

3. INSTALLATION AND TESTING OF SMOKE AND FIRE DAMPERS Work Type 17

a. General Requirements:

Where smoke or combination smoke/fire dampers are installed per C.M.C., Section 606, the owner or the engineer or architect of record acting on behalf of the owner shall employ a qualified third party special inspector or testing agency to verify that all required smoke dampers have been installed and function properly. The special inspector/testing agency shall be an Associated Air Balance Council (AABC), National Environmental Balancing Bureau (NEBB) certified air balancing firm, or the engineer of record, or shall otherwise demonstrate qualifications to the engineer or architect of record. The special inspector/testing agency shall be independent from the installing contractor.

b. Registered Design Professional in Responsible Charge (RDPRC):

Complete all information requested on the Mechanical and Plumbing Special Inspections Certificate. Indicate the types of work requiring Mechanical and Plumbing Special Inspections and the Individual(s) or Firms(s) qualified and authorized to perform each such inspection. Seal, sign and date the Certificate. Submit the completed certificate to the City of Santa Maria with the permit application and prior to project final inspection with the final report.

c. Special Inspector or Testing Agency Shall Perform the Following Tasks:

1. Visual Inspection

- I.** Verify installation of smoke dampers in the locations shown on the approved plans.
- II.** Identify each smoke damper by manufacturer, nameplate data, and listing marks.
- III.** Verify access and identification marking for each smoke damper.
- IV.** Verify freedom from Interference. (C.M.C., 606.6)
- V.** Inspect for proper temperature classification, anchorage, support and alignment in compliance with manufacturer's installation instructions and listing requirements.

2. Electrical Inspection

Verify installation and correct wiring of smoke damper and activating device (smoke detector or smoke detection system).

3. Functional Tests

- I.** Test each smoke damper individually for proper operation Perform canned smoke detector test directly on the smoke detector to verify automatic shut-off. Magnet Tests are not an approved means of testing by the City of Santa Maria
- II.** Verify that each smoke damper receives a signal from the appropriate smoke detector or smoke detection system.
- III.** Verify that the smoke damper closes completely and seals tightly.
- IV.** Reset all Smoke and Fire Dampers after testing prior to activating serving H.V.A.C. equipment. (C.M.C., 606.8)

4. Reports

The Special Inspector shall furnish site visit inspection reports to the building official, the engineer or architect of record, and other designated persons. All discrepancies shall be brought to the immediate attention of the contractor for correction, then if uncorrected, to the proper design authority and to the city building inspector.

5. Final Report:

- I.** Prior to final inspection, a final report prepared by the Special Inspector shall be provided to the City of Santa Maria Building Official and the Registered Design Professional in Responsible Charge certifying that the smoke dampers have been installed as per the approved plans and design and denote if the tested devices passed their inspection. A copy of the completed original, or revised, Mechanical Special Inspections Certificate and the Special Inspectors NEBB or AABC Certification shall be attached to the final report.
- II.** The special inspection report shall be received and found to be acceptable by the City of Santa Maria Building Official and the Registered Design Professional in Responsible Charge prior to the City issuance of final inspection approval or occupancy approval, including conditional occupancy approval.

4. MEDICAL GAS AND VACUUM SYSTEMS (C.P.C., Section 1327) Work Type 20

a. General Requirements: [N.F.P.A., 99-2005]

When Medical Gas Systems are required by the California Plumbing Code (C.P.C.) Section 1301.2, (OSHPD3) the owner or engineer or architect of record acting on behalf of the owner shall employ a qualified third party special inspector or testing agency to verify medical gas and vacuum systems have been installed and function properly. The special inspector/testing agency shall be:

- 1.** Testing shall be conducted by a party technically competent and experienced in the field of medical gas and vacuum pipeline testing and meeting the requirements of ASSE Standard 6030, Medical Gas Verifiers Professional Qualifications Standard or shall otherwise demonstrate qualifications to the engineer or architect of record. The inspector/testing agency shall be independent from the installing contractor.
- 2.** The special certification shall be appropriate to the inspections and are subject to building official approval.
- 3.** RDPRC or Designated Registered Design Professional in Responsible Charge (DRDPRC).

b. Registered Design Professional in Responsible Charge (RDPRC):

Complete all information requested by the Mechanical/Plumbing Special Inspections Certificate. Indicate the types of work requiring Mechanical and Plumbing Special Inspections and the Individual(s) or Firm(s) qualified and authorized to perform each such inspection. Seal, sign and date the Certificate. Submit the completed certificate to the City of Santa Maria with the permit application and prior to project final inspection with the final report.

c. Testing and Inspection (C.P.C., Section 1327)

Inspection and testing shall be performed on new piped gas and vacuum systems, additions, renovations, temporary installations, or repaired systems, to ensure the facility, by a documented procedure, that the applicable provisions of this C.P.C., Section 1327 have been adhered to and system integrity has been achieved or maintained. [NFPA 99:5.1.12.1.1.]

1. Visual Inspection

- I.** Verify installation of medical gas and vacuum systems in each location shown on the approved plans.

- II. Identify each device by manufacturer, nameplate data, and listing marks.
 - III. Inspect for installation in compliance with manufacturer's installation instructions and listing requirements.
2. **Electrical Inspection**
Verify installation of system controls comply with the manufacturer's installation instructions and listing requirements and the Electrical Code.
3. **Functional Tests**
- I. All materials that are required by the Code to be washed and capped (suitable for oxygen piping) shall be certified as having been delivered with the proper credentials, and as having been maintained in a clean condition until the piping installation was completed.
 - This stipulation is applicable to pipe and fittings, both of which are required to be certified as suitable for use in an oxygen system. Fittings are to be washed, bagged, tagged and sealed.
 - II. Verification that pipe ends were de-burred at each pipe cut utilizing a de-burring tool (not a pocket knife or pipe reamer). Any pipe or fitting that requires re-cleaning because of possible handling contamination shall be scrubbed onsite using a hot water-alkaline solution such as sodium carbonate or tri-sodium phosphate (pound pound to three gallons of clean, hot potable water). Material that has in fact become contaminated internally, and that is deemed unsuitable for oxygen service shall not be installed.
 - III. Non-abrasive pads shall be used to clean the exterior surface of the tube ends.
 - IV. Piping that has been assembled for brazing shall have been brazed within one hour after the surfaces were cleaned for brazing.
 - V. The piping system shall be pre-purged with Nitrogen (N₂) for a time sufficient to remove all air (oxygen) prior to beginning the brazing process. The purge gas source shall be monitored during the pre-purge, brazing purge, and post-regulated and its flow rate shall be controlled by use of a flow meter and an outlet orifice sized to assure that the piping system never becomes pressurized with purge Nitrogen. Post-pure nitrogen flow shall continue until after the brazed joints have been cooled, after which the piping system is to be sealed to prevent contamination from its surrounding environment, and to maintain the Nitrogen environment remaining within the pipe.
 - VI. Brazing shall be performed using one of two brazing materials. Copper-to-copper joints shall be made using BCuP (copper-phosphorus or copper-phosphorus-silver) brazing alloy. Copper to brass or bronze shall be performed using Bag (silver base) alloy and flux (typically a borax compound. Copper-to-copper joints never require application of an external flux material – phosphorus in the BCuP brazing alloy serves as a flux when joining copper to copper.
 - VII. Brazed joints exhibiting the following characteristics shall not be permitted:
 - A. The presence of flux or flux residue after using a Bag alloy.
 - B. Base metal melting or erosion.
 - C. Un-melted filler metal.
 - D. Filler metal not visible at the interface between the fitting socket and the tube.
 - E. Cracks in the tube or another component.
 - F. Cracks in the braze filler metal.

G. Failure of a joint to hold a required pressure test.

VIII. Each system of gas or vacuum piping shall be tested at the appropriate pressure and for the length of time specified in NFPA 99C-2005. Results of each test shall be stipulated in the Special Inspector's Report.

4. Reports

The Special Inspector shall furnish site visit inspection reports to the Building Official the Registered Design Professional in Responsible Charge (RDPRC), and other designated persons. All discrepancies shall be brought to the immediate attention of the contractor for correction, then if uncorrected, to the proper design authority and to the City Building Inspector.

d. System Certification. (C.P.C., 1328)

1. Prior to any medical gas or vacuum system being placed in service, each and every system shall be certified, as described in C.P.C. Section 1328.2.

I. Verification tests shall be performed only after all tests required in Section Installer-Performed Tests, have been completed.

II. When systems have been installed by in-house personnel, testing shall be permitted by personnel of that organization who meet the requirements of this section.

III. Certification tests, verified and attested to by the certification agency, shall include the following:

IV. Verifying compliance with the installation requirements. Testing and checking for leakage, correct zoning, and identification of control valves.

A. Checking for identification and labeling of pipelines, station outlets, and control valves.

B. Testing for cross-connection, flow rate, system pressure drop, and system performance.

C. Functional testing of pressure relief valves and safety valves.

D. Functional testing of all sources of supply.

E. Functional testing of alarm systems, including accuracy of system components.

F. Purge flushing of system and filling with specific source gases.

G. Testing for purity and cleanliness of source gases.

H. Testing for specific gas identity at each station outlet.

e. Final Report:

1. Prior to final inspection, the inspection and testing final report prepared by the Special Inspector shall be submitted directly to the party that contracted for the testing, who shall submit the report through channels to the responsible facility authority, the City of Santa Maria Building Official. The Registered Design Professional in responsible charge of certifying that the Medical Gas Systems has been installed as per the approved plans and design shall denote if the tested devices passed their inspection. A copy of the completed original, or revised, Plumbing and Mechanical Inspections Certificate and the Special Inspectors ANSI/ASSE 6040 certificate shall be attached to the final report.

2. The Special Inspection Certification report shall be received and found to be acceptable by the City of Santa Maria Building Official and the Registered Design Professional in Responsible Charge (RDPRC) prior to the City issuance of the final inspection approval or occupancy approval, including conditional occupancy approval.

5. GREASE DUCT FIRE WRAP

Work Type 18

a. General Requirements:

Special inspection shall be required for the installation of listed Factory-built grease duct enclosures systems that consists of two or more layers of material. The Special Inspector shall physically be present during the installation of each wrap layer and verify that it is installed per its listing. The Special Inspector shall be an independent third party individual or firm and shall not be the installing contractor.

The California Mechanical Code (C.M.C.) Section 507.2.3 for reduced clearances requires that a grease duct serving Type I and II Hoods which penetrates a ceiling, wall or floor shall be enclosed in a duct enclosure from the point of penetration to the outlet terminal or have the required clearances to combustibles or limited combustibles as required. Ducts that are enclosed shall be enclosed in accordance with the California Building Code requirements for shaft construction.

Factory-built grease duct enclosures shall be protected with a through-penetration firestop system classified in accordance with ASTM E 814, Fire Tests of Through – Penetration Fire Stops, having an "F" and "T" rating equal to the fire resistance rating of the assembly being penetrated from the point at which the duct penetrates a ceiling, wall or floor to the outlet terminal, and the factory-built grease duct protection system shall be listed in accordance with UL 2221, Standard for Tests of Fire Resistive Grease Duct Enclosure Assemblies and installed in accordance with the manufacturer's instructions and the listing requirements. [NFPA96:4.3.3, 4.3.3.1, 4.3.3.2]

Field-applied grease duct enclosures shall be protected with a through penetration firestop system classified in accordance with ASTM E 814, Fire Tests of Through – Penetration Fire Stops, having an "F" and "T" rating equal to the fire resistance rating of the assembly being penetrated. The surface of the field fabricated grease duct shall be continuously covered on all sides from the point at which the duct enclosure penetrates a ceiling, wall or floor to the outlet terminal, and listed in accordance with ASTM E 2336 Standard Test Methods for Fire resistive Grease Duct Enclosure Systems, and installed in accordance with the manufacturer's instructions and the listing requirements. [NFPA96:4.3.1, 4.3.1.1, 4.3.1.2]

Field-applied grease duct enclosures and factory built grease duct enclosures shall demonstrate that they provide sufficient mechanical and structural integrity, resiliency, and stability when subjected to expected building environmental conditions, duct movement under general operating conditions, and duct movement due to fire conditions. NFPA 96:4.3.4]

1. Measures shall be taken to prevent physical damage to any material or product used for the purpose of reducing clearances.
Exception: When the duct is protected with a field applied grease duct enclosure or factory-built grease duct enclosure.
2. The specifications of material, gauge, and construction of the duct used in the testing and listing of field-applied grease duct enclosures and factory-built grease duct

enclosures shall be included as minimum requirements in their listing and installation documentation.

3. The following clearance options for which field-applied grease duct enclosures and factory-built grease duct enclosures have been successfully evaluated shall be clearly identified in their listing and installation documentation and on their label:
 - I. Open combustible clearance at manufacturers requested dimensions.
 - II. Closed combustible clearance at manufacturers requested dimensions, with or without specified ventilation.
 - III. Rated shaft clearance at manufacturer's requested dimensions, with or without specified ventilation.

b. Registered Design Professional in Responsible Charge:

Complete all information requested on the Mechanical and Plumbing Special Inspections Certificate. Indicate the types of work requiring Mechanical and Plumbing Special Inspections and the qualified Individual(s) or Firms(s) authorized to perform each such inspection. Seal, sign and date the Certificate. Submit complete certificate to the City of Santa Maria with the permit application and prior to project final inspection.

c. Special Inspector:

1. Verify the product used matches the approved mechanical and building construction drawings.
2. Inspect and verify that the installation of the Factory-built grease duct enclosures has been installed as per its listing(s), applicable evaluation report(s), manufacturer installation instructions and the approved construction drawings.

d. Final Report:

1. Prior to concealment and/or final inspection, a final report prepared by the Special Inspector shall be provided to the City of Santa Maria Building Official and the registered design professional in responsible charge certifying that the installation of the Factory-built grease duct enclosures has been installed as per its listing(s), evaluation report(s), manufacturer installation instructions and the approved construction drawings, and is found to be in a safe working condition. A copy of the completed original, or revised, Mechanical/Plumbing Special Inspections Certificate shall be attached to the final report.
2. The special inspection final report shall be received and found to be acceptable by the City of Santa Maria Building Official and the Registered Design Professional in Responsible Charge (RDPRC) prior to the City of Santa Maria issuance of final inspection approval or occupancy approval, including conditional occupancy approval.

6. INSTALLATION OF UNLISTED GAS FIRED APPLIANCES

Work Type 19

a. General Requirements:

The California Mechanical Code (C.M.C.) Section 302 requires that each appliance shall be approved by the building official for safe use or comply with applicable nationally standards as evidenced by the listing and label of an approved agency. The permanently attached label of an approved listing agency may be accepted as such evidence. Installers shall also furnish

satisfactory evidence that the appliance is constructed in conformity with the requirements of the code.

Gas fired appliances, which are proposed, or found in the field to not be listed and labeled by an approved listing agency shall have Special Inspection, be evaluated by a qualified California registered professional engineer and have an Engineers Report provided prior to final acceptance by the City of Santa Maria. (S.M.M.C., C.B.C., Section 1704.20)

The project owner shall employ a qualified California registered professional engineer to evaluate the unlisted gas fired appliance and its installation, and prepare an Engineers Report which finds the equipment and installation to be in compliance with the C.M.C.; all applicable nationally recognized construction and installation standards; and declares the installation to be presently be in a “safe operational condition”.

b. Registered Design Professional in Responsible Charge (RDPRC):

1. Identify on the proposed construction drawings the location, make, model and, CFH of the proposed unlisted appliance.
2. On the proposed construction plans show compliance with the mechanical code for the gas fired appliance in regards to combustion air, products of combustion venting, clearances to combustibles, exhaust and make-up air requirements and any other feature as governed by applicable codes.
3. Denote on the proposed construction drawings that “Special Inspection shall be provided for the unlisted gas fired appliance(s) and an Engineers Report shall be provided to the City of Santa Maria Building Official, prior to final inspection finding the equipment and its installation to be in compliance with the C.M.C.; all applicable nationally recognized construction and installation standards; and declaring the installation to presently be in a ‘safe operational condition’”.
4. The owner, engineer, or architect shall identify in writing who the special inspector shall be and complete a Mechanical/Plumbing Special Inspections Certificate which shall be attached to the approved construction plans and provided with the Final Report.

c. Special Inspector:

1. Review the City of Santa Maria approved mechanical and building construction drawings.
2. The Engineer performing the evaluation of the equipment and who is to be responsible for the Engineers Report shall request in writing a temporary gas clearance for testing purposes of the unlisted gas fired appliance. The request must identify the project address, project name, name of person requesting the temporary gas clearance, appliance(s) to be evaluated, duration of time the gas shall be made available for testing purposes, and the name of the special inspector or engineer evaluating of the equipment. The temporary gas clearance letter shall be signed and sealed by the engineer who will be responsible for the signing and sealing the final engineers report letter.
3. Inspect, test and verify that the installation of the unlisted gas fired appliance has been installed per the manufacturer installation instructions, the approved construction drawings and all applicable national standards as are applicable to the appliance.

d. Final Report:

Reports which are submitted to the building official, as an alternative to a listing agency approval for those products or equipment which require approval, are not acceptable unless they provide at least the following:

1. Date issued.
2. Address at which the product or equipment is installed.
3. General description of the product or equipment which is the subject of the report.
4. Proposed objective to be achieved as a result of this examination.
5. Data plate information which shall include at least the following:
 - I. Manufacturer's name
 - II. Model and serial number
 - III. Type of fuel for fuel burning devices - input/output ratings
 - IV. Electrical rating - volts, amps, phase (if applicable)
 - V. Operating pressures (if applicable)
 - VI. Listing of specific test criteria:
 - a. ASTM Standards
 - b. ANSI Standards
 - c. UL Standards
 - d. CGA Standards
 - e. Other Standards
6. Description of specific tests performed.
7. Evaluation of the product examined, including recommendations regarding correction of deficiencies if appropriate, or a statement (as per below) that the device was in compliance with all applicable standards at the time of examination.
8. Submit drawings or photograph of the equipment of which this report addresses.
9. Prior to concealment and/or final inspection, the Engineers Report shall be provided to the City of Santa Maria Building Official that is signed and sealed by the Engineer or Architect performing the Special Inspection certifying that:

“The equipment installation addressed by this report is provided with sufficient combustion and secondary air, has all combustion products removed to a safe and code compliant point of discharge, and included appropriate pre-purge cycling (as required), interlocking of required make-up or exhaust blowers with the fuel train, and has functioning safety devices which satisfy the requirements of ANSI, ASME, CGA, UL, FM, or other applicable equipment construction or installation standards. In my professional opinion this installation is presently in a safe operational condition as of the date of this report.”
10. The Special Inspection/Engineers Report shall be received and found to be acceptable by the City of Santa Maria Building Official prior to the City of Santa Maria issuance of final inspection approval or occupancy approval, including conditional occupancy approval. A copy of the original, or revised, Mechanical/Plumbing Special Inspections Certificate shall be attached to the final report.

F. SPECIAL CASES (C.B.C., Section 1704.15) Work Type 13

1. IDENTIFICATION

The special case shall be identified by the building official before obtaining permits.

- a. General Requirements The building official, with the RDPRC assistance, shall establish, prior to the special case construction, a job task analysis in writing for the specific area concerned. The building official reserves the right to require special inspection and/or an engineer report when unusual or unanticipated conditions arise during the course of construction. The building official, with assistance from the RDPRC, shall establish the job tasks required in these situations.

SECTION 5

SPECIAL INSPECTOR MINIMUM QUALIFICATIONS

A. IDENTIFICATION

In order to ensure uniformity of the special inspector qualifications in a manner that would be verifiable by the Building Official, these minimum qualification standards shall be the basis for determining acceptability of special inspectors. The Registered Design Professional in Responsible Charge (**RDPRC**) or Designated Registered Design Professional in Responsible Charge (**DRDPRC**) shall identify Building Official qualified special inspectors on projects for which they are responsible. Methods by which the Building Official can verify qualifications include, but are not limited to, certification cards such as those provided by ICC, AWS, NICET, IAPMO, NEBB, etc. In the case of an Engineer in Training (**E.I.T.**) and Special Inspector in Training (**S.I.T.**), a resume accompanied with a cover letter, sealed by the **RDPRC** or **DRDPRC** for whom the inspector is employed attesting to their qualifications.

B. SPECIAL INSPECTOR

1. Special Inspector shall meet at least one of the following criteria:

- a. The special inspector shall be a qualified person who shall demonstrate competence, to the satisfaction of the building official, for inspection of the particular type of construction or operation requiring special inspection.
- b. The **RDPRC** who has determined they are qualified to inspect the materials and system to be installed.
- c. E.I.T. under the direction of the **RDPRC** who has completed S.I.T. Program.
- d. The **DRDPRC** who has determined they are qualified to inspect design by others.
- e. Special Inspection Testing Technician having the qualifications as specified in Section F.

C. SPECIAL INSPECTOR IN TRAINING (S.I.T.)

The intent of this provision is to provide practical opportunities for an individual to gain the required experience to qualify as a Special Inspector. The **RDPRC** is able to decide who, other than themselves, is qualified to do inspections on projects that they design. These designated individuals must meet the following qualifications:

1. Obtain 40 hours of in-office training which would include, but not be limited to, instruction in the following areas:
 - a. Reading and understanding plans and specifications.
 - b. Office standards for inspections.

- c. Office procedures for reviewing shop fabrication and erection drawings.
2. Make three supervised visits with the **RDPRC** (or other qualified inspector) to a project site for each area of construction being inspected, i.e., concrete, pre-stressing tendons, structural masonry, etc. Depending on the size and complexity of the project, these visits may be combined at the discretion of the supervisor.

D. MINIMUM QUALIFICATIONS OF SPECIAL INSPECTOR

1. **Welding - Work Type 2**
 - a. Minimum three years experience, AWS certification and S.I.T.
 - b. ICC certification this category - Structural Steel and Welding.
 - c. RDPRC or DRDPRC
 - d. EIT under direction of RDPRC or DRDPRC & S.I.T.
2. **High Strength Bolting - Work Type 2**
 - a. ICC certification in Structural Steel and Welding and S.I.T.
 - b. RDPRC or DRDPRC
 - c. EIT under direction of RDPRC or DRDPRC & S.I.T
3. **Reinforced Concrete - Work Types 3**
 - a. ICC certification in reinforced concrete and S.I.T.
 - b. Registered Design Professional in Responsible Charge (RDPRC) or Designated Registered Design Professional in Responsible Charge (DRDPRC)
 - c. EIT under direction of RDPRC or DRDPRC & S.I.T.
4. **Reinforced Gypsum Concrete and Insulating Concrete Fill -Work Types 3**
 - a. ICC certified in either reinforced or prestressed concrete and S.I.T.
 - b. RDPRC or DRDPRC
 - c. EIT under direction of RDPRC or DRDPRC & S.I.T.
5. **Prestressed Concrete - Work Type 3**
 - a. ICC certification in prestressed concrete and S.I.T.
 - b. RDPRC or DRDPRC
 - c. EIT under direction of RDPRC or DRDPRC & S.I.T.
6. **Shotcrete - Work Type 3**
 - a. ICC certified in either reinforced or prestressed concrete
 - b. RDPRC or DRDPRC
 - c. EIT under direction of RDPRC or DRDPRC & S.I.T.
7. **Structural Masonry - Work Type 4**
 - a. ICC certification this category and S.I.T.
 - b. RDPRC or DRDPRC
 - c. EIT under direction of RDPRC or DRDPRC & S.I.T.
8. **Wood Construction – Work Type 5**
 - a. ICC certified Building Inspector and S.I.T.

- b. RDPRC or DRDPRC
 - c. EIT under direction of RDPRC or DRDPRC & S.I.T.
- 9. Special Grading Excavating and Filling - Work Type 6**
- a. Nicet Level II certification or higher in soils
 - b. RDPRC or DRDPRC
 - c. EIT under direction of RDPRC or DRDPRC & S.I.T.
- 10. Piling, Drilled Piers, Helical, Cast-in Place, and Caissons - Work Type 7 and 8**
- a. Nicet Level II certification or higher in soils.
 - b. RDPRC or DRDPRC
 - c. EIT under direction of RDPRC or DRDPRC & S.I.T.
- 11. Spray Applied Fireproofing - Work Type 9**
- a. ICC certified in this category and S.I.T.
 - b. RDPRC or DRDPRC
 - c. EIT under direction of RDPRC or DRDPRC & S.I.T.
- 12. Mastic and Intumescent Fire-resistant Coatings - Work Type 11**
- a. ICC certified in this category or Building Inspector and S.I.T.
 - b. RDPRC or DRDPRC
 - c. EIT under direction of RDPRC or DRDPRC & S.I.T.
- 13. Exterior Insulation and finish Systems (EIFS) - Work Type 12**
- a. ICC certified in this category or Building Inspector and S.I.T.
 - b. RDPRC or DRDPRC
 - c. EIT under direction of RDPRC or DRDPRC & S.I.T.
- 14. Special Cases - Work Type 13**
- a. As required by the building official
 - b. Certification shall be appropriate to the inspections and are subject to building official approval RDPRC or DRDPRC.
- 15. Smoke Control Systems - Work Type 14**
- a. RDPRC or DRDPRC
 - b. ICC or IAPMO Mechanical Inspector certification and approved by the RDPRC or DRDPRC.
 - c. The special inspector/testing agency shall be an Associated Air Balance Council (AABC), National Environmental Balancing Bureau (NEBB) certified Air Balancing firm.
- 16. Adhered Veneer more than 8 feet above Grade - Work Type 15**
- a. ICC certified in this category or Building Inspector and S.I.T.
 - b. RDPRC or DRDPRC
 - c. EIT under direction of RDPRC or DRDPRC & S.I.T.
- 17. Complex Electrical Installation - Work Type 16**

- a. A registered Electrical Engineer OR IAEI Electrical general or plan review certification OR a full time testing agency AND
 - b. Minimum of two years experience in this category.
- 18. Installation and Testing of Fire and Smoke Dampers – Work Type 17**
- a. RDPRC or DRDPRC
 - b. ICC or IAPMO Mechanical Inspector certification and approved by the RDPRC or DRDPRC.
 - c. The special inspector/testing agency shall be an Associated Air Balance Council (AABC), National Environmental Balancing Bureau (NEBB) certified Air Balancing firm.
- 19. Automatic Shutoff For Air Distribution Systems– Work Type 17**
- a. RDPRC or DRDPRC
 - b. ICC or IAPMO Mechanical Inspector certification and approved by the RDPRC or DRDPRC
 - c. The special inspector/testing agency shall be an Associated Air Balance Council (AABC), National Environmental Balancing Bureau (NEBB) certified Air Balancing firm.
- 20. Installation of Grease Duct Fire Wrap – Work Type 18**
- a. RDPRC or DRDPRC
 - b. ICC or IAPMO Mechanical Inspector certification and approved by the RDPRC or DRDPRC
 - c. The special inspector/testing agency shall be an Associated Air Balance Council (AABC), National Environmental Balancing Bureau (NEBB) certified Air Balancing firm.
- 21. Installation of Unlisted Gas Fired Appliances – Work Type 19**
- a. RDPRC or DRDPRC
- 22. Medical Gas and Vacuum Systems – Work Type 20**
- a. American National Standard Institute (ANSI) / American Society of Sanitary Engineers (ASSE) Standard 6030 certified firm.
 - b. Certification shall be appropriate to the inspections and are subject to building official approval.
 - c. RDPRC or DRDPRC
 - d. Certified Office of the Statewide Health Planning and Development Inspector.
- 23. Special Inspections for Seismic Resistance - Work Type 21**
- a. ICC certification in the appropriate category and S.I.T.
 - b. RDPRC or DRDPRC
 - c. EIT under direction of RDPRC or DRDPRC & S.I.T.

E. SPECIAL INSPECTION TESTING TECHNICIAN - MINIMUM QUALIFICATIONS

- a. **CATEGORY**
1. **Reinforced Concrete**
 - a) Minimum one year experience, and
 - b) Certification by ACI (Field Tech - Grade 1), and
 - c) Certification in this Category.
 2. **Ductile Concrete**
 - a) Minimum six months experience plus three years experience in Category 1, and
 - b) Certification in Category 1.
 3. **Prestressed Concrete**
 - a) Minimum six months plus three years experience in Category 1, and
 - b) Certification by ACI (Field Tech - Grade 1), and
 - c) Certification in this Category.
 4. **Shotcrete**
 - a) Minimum three months experience, and
 - b) Certification in Category 1.
 5. **Welding**
 - a) Minimum three years experience, and
 - b) Certification in this Category.
 6. **NDT (Structural Steel)**
 - a) Experience per ASNT-TC-1A guidelines
 7. **High Strength Bolting**
 - a) Minimum six months experience, or qualified in Category 5, and
 - b) Certification in this Category.
 8. **Structural Masonry**
 - a) Minimum one year experience, or six months plus qualified in Category 1, and
 - b) Certification in this Category.
 9. **Reinforced Gypsum and Insulating Concrete**
 - a) Qualified in Category 1.
 10. **Fire-resistant Materials (Sprayed/Mastic/Intumescent)**
 - a) Minimum six months experience, or three months plus qualified in Category 1 or 5, &
 - b) Certification in this Category.
 11. **Piling, Drilled Piers and Caissons**
 - a) Concrete Work Qualified in Category 1.
 - b) Soil Work Qualified in Category 12.
 12. **Soils (Grading, Excavation and Filling)**
 - a) Minimum three years experience,
 - b) Certification optional.
 13. **Post-Installed Anchors and Dowels (Installation and proofload testing)**
 - a) Minimum three months
 - b) Certification not required
 14. **Structural Wood and Glu Lam**
 - a) Minimum two years experience,
 - b) Certification optional.
 15. **Asphaltic Concrete**
 - a) Minimum one year experience,
 - b) Certification optional.
 16. **Roofing**
 - a) Minimum one year experience,

b) Certification optional.

17. Field Sampling and Field Testing in Any Category

a) Minimum three months experience,

b) Certification by ACI (Field Tech – Grade 1 required for concrete

b. REFERENCE ABBREVIATIONS & RECOGNIZED CERTIFYING AGENCIES

1. AA- Associate of Arts
2. AABC- Associated Air Balance Council
3. AASHTO- American Association of State Highway and Transportation Officials
4. A.C.I.- American Concrete Institute
5. ACIA- American Construction Inspectors Association
6. A.I.S.C.- American Institute of Steel Construction
7. A.S.T.M.- American Society for Testing and Materials
8. ASNT- American Society for Nondestructive Testing
9. AWC – American Wood Council
10. AWCI- Association of the Wall and Ceiling Industry
11. AWS/ACWI- American Welding Society/Associate Certified Welding Inspector
12. AWS/CWI- American Welding Society/Certified Welding Inspector
13. BS- Bachelor of Science
14. C.B.C.- California Building Code
15. C.I.S.C.A- Ceilings & Interior Systems Construction Association
16. C.S.M.M.C.-City of Santa Maria Municipal Code
17. DSA- Division of the State Architect
18. IAS- International Accreditation Service
19. I.C.C.- International Code Council
20. NDS – National Design Specification
21. NEBB-National Environmental Balancing Bureau
22. NICET- National Institute for Certification of Engineering Technologists
23. NRCA- National Roofing Contractors Association
24. OSHPD- Office of Statewide Health Planning and Development
25. PCI- Precast Concrete Institute
26. PTI- Post-Tensioning Institute
27. SDI – Steel Deck Institute
28. SDPWS- Special Design Provisions for Wood and Seismic
29. TPI- Truss Plate Institute

SECTION 6

SPECIAL INSPECTION FORMS & CERTIFICATES

The information and sequences are intended to be incorporated into any re-print of these forms.

The report forms may be reproduced exactly as printed in this manual or may be modified as approved by the building official. The City of Santa Maria Building Department supplies the Special Inspection and Observation Certificates.

The following are forms that may be modified and the guidelines as to what modifications may be made:

A. Special Inspection Forms

1. Special Inspector Daily Report

- a. Addition of Company Title Block is acceptable
- b. Retain all information shown on City provided form

2. Discrepancy Notice

- a. Addition of Company Title Block is acceptable
- b. Retain all information shown on City provided form

3. Sample Special Inspector Final Report

- a. Addition of Company Title Block is required.
- b. Retain all information shown on City provided form

4. Structural Engineers Association of Northern California Model Statement of Special Inspections.

- a. May complete at RDPRC option and attach with the applicable City of Santa Maria Special Inspection Certificate.

B. City of Santa Maria Certificates

1. Special Inspection Certificates (Not to be Modified)

- a. Special Structural Inspections Certificate
- b. Special Electrical Inspections Certificate
- c. Special Geotechnical Inspections Certificate
- d. Special Mechanical Plumbing Inspections Certificate
- e. Special Architectural Inspections Certificate

2. Certificates of Observation (Not to be Modified)

- a. Special Structural Observation Certificate
- b. Special Electrical Observation Certificate

SPECIAL INSPECTOR DAILY REPORT

To: Building Inspector

Geotechnical

Structural

Cc: Registered Design
Professional In
Responsible Charge
 Contractor

Architectural

Electrical

Mechanical

Other

Date: _____

Project Name/Address: _____

Permit Number: _____

Inspection Type(s) _____

Continuous _____

Periodic _____

Time Inspection Begins _____ Time Inspection Ends _____

List Tests Made: _____

List Items Requiring Correction(s) of Previously Uncorrected Items _____

List Changes to Approved Plans Authorized by Registered Design Professional and
City of Santa Maria: _____

Comments: _____

To the best of my knowledge, all work inspected was in accordance with the City of Santa Maria approved design plans, specifications and applicable workmanship provisions of the Santa Maria Building Construction Code except as noted above.

Signed: _____ Date: _____

Print Full Name: _____

(This Report to remain at Jobsite with Contractor for review by the Building Inspector)

DISCREPANCY NOTICE

SPECIAL INSPECTOR

Job Address:				
Job Description:				
Permit Number:		Type of Inspection:		
Area Inspected:				
Notice Delivered To:		Initials	Date	Time
Contractor				
City Building Inspector				
Discrepancy:				
Special Inspector				
Printed Name		Signature		
Firm name		Phone Number		

DO NOT REMOVE THIS NOTICE

Post adjacent to the building permit

Copies to: __ Building Inspector _____ Registered Design Professional in Responsible Charge

SAMPLE SPECIAL INSPECTOR FINAL REPORT

To: City of Santa Maria
110 S. Pine St. #101
Santa Maria, CA 93458

City of Santa Maria Building Inspector

Geotechnical
Structural
Architectural
Electrical Attention:
Mechanical
Other

Date: _____
Project Name: _____
Project Address: _____
Permit Number: _____

This is to certify that I, or a representative of my firm performed Special Inspection on the following portions of the work at the address listed above which were listed on the Special Inspection Certificate and I was employed to inspect.

Based on my personal observation or reports by representatives of my firm of this work, it is my judgment that the inspected work was performed, to the best of my knowledge, in accordance with the City of Santa Maria approved plans, listings, specifications and the applicable workmanship provision of the Santa Maria Construction Code.

Very Truly Yours,

Signature: Special Inspector Date

Printed Name Firm

CC: Contractor
Registered Design Professional in Responsible Charge
Owner's Representative



City of Santa Maria

COMMUNITY DEVELOPMENT DEPARTMENT

110 South Pine Street, Suite 101, Santa Maria, CA 93458-5078
Phone: 805-925-0951 #2241 (Voice) or Fax: 805-928-8275



CERTIFICATE OF STRUCTURAL OBSERVATION

(General Requirements and Instructions on the backside of form)

POST AT JOB SITE WITH PERMIT

TO BE COMPLETED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE
Project Name, Project Address, Plan Review / Permit Number, Project Owner/Owner's Agent Name, Mailing Address, Phone No., Engineer of Record Name, Mailing Address, Phone No., Firm Name, Email Address, Fax No.

As the Registered Design Professional, I hereby affirm that I am familiar with the structural design of this project and have been designated by the Owner/Owner(s) Agent as the registered design professional in responsible charge of conducting the Structural Observation Program required by the City of Santa Maria Municipal Code, Title 9 Building Regulations Section 9-1.101; C.B.C., Section [A] 110 and C.B.C. Section 1704.6. I have determined that the items checked below require Structural Observation. I understand and agree to inform the project Owner, the Contractor(s), and the Building Inspector about all Structural Observation requirements. I am familiar with the City of Santa Maria's 2016 Special Inspection and Observation Manual available for review.

(Seal, Sign, and Date)

Y N
E O
S ✓
TYPES OF WORK REQUIRING SPECIAL STRUCTURAL OBSERVATION **
(Attach Supplement if Necessary)
Seismic Resistance & Wind Requirements for Structures Classified as Risk Category III or IV. C.B.C., §1704.6.1 & §1704.6.2
Structure height greater than 75 ft. above the base. C.B.C., §1704.6
Seismic Resistance for Structures assigned to Seismic Design Category E & Risk Category I or II and > 2 story. C.B.C., §1704.6.1
When so designated by the Registered Design Professional Responsible for the structural design. C.B.C., §1704.6
When such Observation is specifically required by the Building Official

Certificate of Compliance

I certify that to the best of my knowledge the requirements of the City of Santa Maria Building Construction Code and City reviewed plans and specifications have been complied with insofar as the portion of the work requiring structural observation is concerned, except for those deviations that have been previously reported. A guarantee that the contractor has necessarily constructed the building in full accord with the plans and specifications is neither intended nor implied

(Seal, Sign & Date)

** All construction or work for which a permit is required shall be subject to inspection by the Building Division and all such construction or work shall remain accessible and exposed for inspection purposes until approved by the building official.

STRUCTURAL OBSERVATION IS IN ADDITION TO INSPECTIONS BY THE CITY BUILDING INSPECTORS (C.B.C. SECTION [A] 110)

Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of the building code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of the building code or of other ordinances of the jurisdiction shall not be valid.

It shall be the duty of the permit applicant to cause the work to remain accessible and exposed for inspection purposes. Neither the building official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow all required inspections.

CERTIFICATE OF STRUCTURAL OBSERVATION PROGRAM

The following are general requirements and instructions for processing the Structural Observation Program form and general information for persons responsible for the Structural Observation.

GENERAL REQUIREMENTS:

In addition to inspections required by C.B.C. Section [A] 110 performed by City of Santa Maria Building Inspectors; C.B.C., Section 1704.6 requires Structural Observation Inspections for items specified in C.B.C. Sections 1704.6.1 and 1704.6.2. Structural Observation includes, but is not limited to, visual observation of the structural system for conformance with the approved plans and specifications, at significant construction stages, and at the completion of the structural system, with submission of appropriate observation reports to the City of Santa Maria Building Inspector.

The Structural Observer shall be a qualified person who demonstrates competence to the satisfaction of the building official for the items requiring Structural Observation. The Building Official shall rely on the registered design professional responsible for Structural Observations to determine the individual(s) or firm(s) qualified to perform each type of observation. These individual(s) or firm(s) shall be responsible for performing the Structural Observation tasks and reports required by the City of Santa Maria Regulations. The Structural Observer shall be familiar with the City of Santa Maria's 2016 Special Inspection and Observation Manual available for review **The Structural Observer(s) must be the registered design professional responsible for the structural design, or the designated registered design professional identified by the registered design professional responsible for the structural design, to perform the structural observation as defined in C.B.C., Section [A] 107.3.4.**

INSTRUCTIONS

REGISTERED DESIGN PROFESSIONAL: Complete all information requested on this Certificate of Structural Observation form. Indicate the ITEMS requiring Structural Observation. Seal, sign and date the form. Submit the form to the City of Santa Maria with the permit application whenever the code requires structural observations.

PLAN REVIEWER: Review the Certificate of Structural Observation form for accuracy and ensure that it identifies all work requiring Structural Observation. Complete any missing information (i.e., project and/or permit numbers) if known and indicate on the permit(s) "Structural Observation Required." The Certificate of Structural Observation form shall normally be processed before the permit issuance; however, the department may choose to attach a blank form to the plans or permit to be processed by the registered design professional in responsible charge, contractor, etc. In this case, the permit(s) will be marked "Structural Observation Inspections required - Field Process Certificate."

CITY BUILDING INSPECTOR: Review the Certificate of Structural Observations form for the name of the registered design professional responsible for the Structural Observation Program. Address any Structural Observation concerns of the Structural Observer(s). Attend any necessary job conference related to Structural Observation procedures. Review all required Structural Observation and final reports.

STRUCTURAL OBSERVER: The registered design professional responsible for Structural Observation shall **complete a signed written daily report** after each site visit requiring Structural Observation. The Structural Observer shall ensure that all observation reports are posted with the permit at the job site and are available to the City of Santa Maria Building Inspector for review. All deviations from the approved plans or specifications shall be brought to the immediate attention of the contractor for correction and, if uncorrected, to the registered design professional and to the City of Santa Maria Building Inspector. The Structural Observer shall be familiar with the City of Santa Maria's 2016 Special Inspection and Observation Manual available for review.

The Structural Observer shall submit a **final signed report** to the Owner and to the City of Santa Maria Building Inspector providing final observation results and stating whether the items requiring structural observation were, to the best of the observer's knowledge in compliance with the approved plans, specifications and applicable workmanship provisions of the code. Final inspection approval and/or issuance of Certificate of Occupancy will not occur until all Structural Observation reports and this completed and signed Structural Observation Certificate have been received, reviewed and accepted by the City of Santa Maria Building Department.



City of Santa Maria

COMMUNITY DEVELOPMENT DEPARTMENT
110 South Pine Street, Suite 101, Santa Maria, CA 93458-5078
Phone: 805-925-0951 #2241 (Voice) or Fax: 805-928-8275



CERTIFICATE OF ELECTRICAL OBSERVATION

(General Requirements and Instructions on the backside of form)

POST AT JOB SITE WITH PERMIT

Table with 3 columns: Project Name, Project Address, Plan Review / Permit Number; Project Owner/Owner's Agent Name, Mailing Address, Phone No.; Electrical Engineer of Record Name, Mailing Address, Phone No.; Firm Name, Email Address, Fax No.

As the Registered Design Professional, I hereby affirm that I am familiar with the design of this project and have been designated by the Owner/Owner(s) Agent as the registered design professional in responsible charge of conducting the Electrical Observation Program required by the City of Santa Maria Municipal Code, Title 9 Building Regulations, Section 9-2.211, C.B.C. Section [A] 110.3.9. and C.E.C. Annex H, Article 80.19(F)6 as amended. I have determined that the items checked below require Electrical Observation. I understand and agree to inform the project owner, the contractor(s), and the Building Inspector about all Electrical Observation requirements. I am familiar with the City of Santa Maria's 2016 Special Inspection and Observation Manual available for review.

(Seal, Sign, and Date)

Table with 3 columns: Y, N, S. Header: TYPES OF WORK REQUIRING SPECIAL ELECTRICAL OBSERVATION** (Attach Supplement if Necessary). Rows include: Healthcare Facility, High Voltage Electrical, Hazardous Location electrical systems, Installation of Critical Operations Power Systems (COPS), Solar Photovoltaic Systems, Required by Registered Design Professional in Responsible Charge, Required by the Building Official.

Certificate of Compliance
I certify that to the best of my knowledge the Electrical requirements of the City of Santa Maria Construction Code and approved plans and specifications have been compiled with in so far as the portion of the work requiring Electrical Observation is concerned, except for those deviations that have been previously reported. A guarantee that the contractor has necessarily constructed the work in full accordance with the plans and specifications is neither intended nor implied.

(Seal, Sign & Date)

** All construction or work for which a permit is required shall be subject to inspection by the Building Division and all such construction or work shall remain accessible and exposed for inspection purposes until approved by the building official.

ELECTRICAL OBSERVATION IS IN ADDITION TO INSPECTIONS BY THE CITY BUILDING INSPECTORS (C.B.C. SECTION [A] 110)

Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of the building code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of the building code or of other ordinances of the jurisdiction shall not be valid. It shall be the duty of the permit applicant to cause the work to remain accessible and exposed for inspection purposes. Neither the building official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow all required inspections.

CERTIFICATE OF ELECTRICAL OBSERVATION PROGRAM

The following are general requirements and instructions for processing the Electrical Observation Program form and general information for persons responsible for the Electrical Observation.

GENERAL REQUIREMENTS:

In addition to inspections required by C.B.C. Section [A] 110 performed by City of Santa Maria Building Inspectors; C.B.C. Section [A] 110.3.9 and the Santa Maria Municipal Code, Title 9 Building Regulations, Section 9-2.211 require Electrical Observation Inspections items in C.E.C. Annex H, Article 80.19(F)6 as amended. Electrical Observation includes, but are not limited to, visual observation of the Electrical system for conformance with the approved plans and specifications, at significant construction stages and at completion of the Electrical system, and submission of appropriate observation reports to the City of Santa Maria Building Inspector.

The Electrical Observer shall be a qualified person who demonstrates competence to the satisfaction of the building official for the items requiring Electrical Observation. The Building Official shall rely on the registered design professional responsible for Electrical Observations to help determine any designated individual(s) or firm(s) qualified to perform each type observation. These individual(s) or firm(s) as designated shall be responsible for performing the Electrical Observation tasks and reports required by the City of Santa Maria Regulations. The Electrical Observer shall be familiar with the City of Santa Maria's 2016 Special Inspection and Observation Manual. **The Electrical Observer(s) should be the registered design professional responsible for the Electrical Design, or the designated registered design professional identified by the registered design professional responsible for the Electrical Design, to perform the Electrical Observation as defined in C.B.C. Section 107.3.4.**

INSTRUCTIONS

REGISTERED DESIGN PROFESSIONAL: Complete all information requested on this form. Indicate the ITEMS requiring Electrical Observation. Seal, sign and date the form. Submit to the city with the permit application whenever the code requires Electrical observations.

PLAN REVIEWER: Review the Certificate of Electrical Observation form for accuracy and ensure that it identifies all work requiring Electrical Observation. Complete any missing information (i.e., project and/or permit numbers) if known and indicate on the permit(s) "Electrical Observation Required." The Certificate of Electrical Observation form shall normally be processed before permit issuance; however, the department may choose to attach a blank form to the plans or permit to be processed by the registered design professional in responsible charge, contractor, etc. In this case, the permit(s) will be marked "Electrical Observation Inspections required - Field Process Certificate."

CITY BUILDING INSPECTOR: Review the Electrical Observations Program Form for the name of the registered design professional responsible for the Electrical Observation Program. Address any Electrical Observation concerns of the Electrical Observer(s). Attend any necessary job conference related to Electrical Observation procedures. Review all required Electrical Observation and final reports.

ELECTRICAL OBSERVER: The registered design professional responsible for Electrical Observation shall **complete a signed written daily report** after each site visit requiring Electrical Observation. The Electrical Observer(s) shall ensure that all reports are posted with the permit at the job site and are available to the City of Santa Maria Building Inspector for review. All deviations from the approved plans or specifications shall be brought to the immediate attention of the contractor for correction and, if uncorrected, to the registered design professional and to the City of Santa Maria Building Inspector. The Electrical Observer shall be familiar with the City of Santa Maria's Special Inspection and Observation Manual.

The Electrical Observer shall submit a final **signed Observation Certificate** to the Owner and to the City of Santa Maria Building Inspector providing final observation results and stating whether the items requiring Electrical Observation were, to the best of the observer's knowledge in compliance with the approved plans and specifications and applicable workmanship provisions of the code. Certify that to the best of their knowledge the Electrical requirements of the City of Santa Maria Construction Code and approved plans and specifications have been complied with in so far as the portion of the work requiring Electrical Observation is concerned, except for those deviations that have been previously reported. A guarantee that the contractor has necessarily constructed the work in full accordance with the plans and specifications is neither intended nor implied. Final inspection approval and/or issuance of Certificate of Occupancy will not occur until all Electrical Observation reports and this completed and signed Certificate of Electrical Observation form have been received, reviewed and accepted by the City of Santa Maria Building Department.



City of Santa Maria

COMMUNITY DEVELOPMENT DEPARTMENT

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Phone: 805-925-0951 #2241 (Voice) or Fax: 805-928-8275



SPECIAL STRUCTURAL INSPECTIONS CERTIFICATE

(General Requirements and Instructions on the backside of form)

POST AT JOB SITE WITH PERMIT

TO BE COMPLETED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE

Table with 3 columns: Project Name, Project Address, Plan Review / Permit Number; Project Owner/Owner's Agent Name, Mailing Address, Phone No.; Engineer or Architect of Record Name, Mailing Address, Phone No.; Firm Name, Email Address, Fax No.

I hereby affirm that I am familiar with the Structural Design of this project and have been designated by the Owner/Owner's Agent as the Registered Design professional responsible for establishing the Special Structural Inspections Program required by the Santa Maria Municipal Code, Title 9 Building Regulations Section 9-1.101 adopting C.B.C. Sections [A] 110.3.9, 1705.1 thru 1705.5, 1705.11, 1705.12 and 1705.13. I have determined that the types of work checked below requires Special Structural Inspection and that the Building Official qualified individuals or firms named below are to perform the Special Inspections. I understand and agree to inform the Project Owner, Contractor and Special Inspector(s) about the Special Structural Inspection Program requirements and limitations, including that the Special Structural Inspector is to be either the Registered Design Professional familiar with the structural materials, methods and design or Third-Party Individuals or Firms, and shall not be the installing Contractor. I am familiar with the City of Santa Maria's 2016 Special Inspection and Observation Manual available for review.

(Seal, Sign, and Date)

Table with 3 columns: C, P, TYPES OF WORK REQUIRING SPECIAL STRUCTURAL INSPECTION, QUALIFIED SPECIAL INSPECTOR INDIVIDUAL(S) OR FIRM(S). Includes categories like Inspection of Fabricators, Struct. Steel, Cold-formed steel floor & roof deck, etc.

C..... Indicates continuous inspection is required.

P..... Indicates periodic inspections are required. The construction documents should clarify.

All special inspection reports were received, reviewed and found to be in conformance with the approved plans. REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE (DO NOT SIGN UNTIL REPORT(S) RECEIVED)

(SIGNATURE)

(DATE)

** All construction or work for which a permit is required shall be subject to inspection by the Building Division and all such construction or work shall remain accessible and exposed for inspection purposes until approved by the building official.

SPECIAL INSPECTION IS IN ADDITION TO INSPECTIONS BY THE CITY BUILDING INSPECTORS. (C.B.C., SECTION [A] 110)

Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of the building code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of the building code or of other ordinances of the jurisdiction shall not be valid. It shall be the duty of the permit applicant to cause the work to remain accessible and exposed for inspection purposes. Neither the building official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow all required inspections.

SPECIAL STRUCTURAL INSPECTIONS PROGRAM

The following are general requirements and instructions for processing the Special Structural Inspections Program Certificate and general information for persons responsible for the Special Inspections.

GENERAL REQUIREMENTS:

California Building Code (C.B.C.) Sections [A] 110.3.9, 1705.1 thru 1705.5, 1705.12 and 1705.13 require Special Structural Inspections for the types of work specified in the C.B.C. and identified on this certificate. Special Structural Inspections include, but are not limited to; on-site observation and testing of the work assigned for conformance with the approved design drawings and specifications, with the submission of appropriate inspection and test reports to the City of Santa Maria Building Inspector.

The Special Structural Inspector shall be a qualified person who demonstrates competence to the satisfaction of the building official for the type of work requiring Special Structural Inspection. The Building Official relies on the Registered Design Professional in Responsible Charge for the Special Inspections Program to help determine the Individual(s) or Firm(s) qualified to perform each type of test or inspection.. These Individual(s) or Firm(s) shall be responsible for performing the Special Structural Inspection tasks, tests and reports as required by the C.B.C. and the City of Santa Maria's Special Inspection and Observation Manual. **The Special Structural Inspector(s) shall be the designated registered design professional familiar with the structural materials, methods and design of the project or a third-party individual, firm or testing agency and shall not be the installing contractor.**

INSTRUCTIONS

REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE [RDPRC]: Complete all information requested on this Certificate. Indicate the TYPES OF WORK requiring Special Structural Inspections and the building official qualified Individual(s) or Firm(s) authorized to perform each such inspection. Seal, sign and date the Certificate. Submit the Certificate to the City of Santa Maria with the permit application whenever the code requires special structural inspections. **The RDPRC shall sign and date the bottom of the Certificate only after the final special structural inspection report has been received, reviewed and accepted by the RDPRC for the Special Inspections Program.**

PLAN REVIEWER: Review the Special Structural Inspections Program Certificate for accuracy and ensure that it identifies all work requiring Special Structural Inspections. Complete any missing information (i.e., project review and/or permit number) if known and indicate on the permit(s) "Special Structural Inspection Required." The Special Structural Inspections Certificate shall normally be processed before permit issuance; however, the department may choose to attach a blank certificate to the plans or permit to be processed by the registered design professional in responsible charge, contractor, etc. In this case, the permit(s) will be marked "Special Structural Inspections required - Field Process Certificate."

CITY BUILDING INSPECTOR: Review the Special Structural Inspections Program form for the name of the registered design professional in responsible charge, contractor, etc. for the Special Structural Inspections Program and the names of the individual(s) and/or firm(s) authorized to perform Special Inspections. Address any Special Inspection concerns of the Special Structural Inspector(s). Attend any necessary job conferences related to Special Inspection procedures. Review all required Special Inspections and final reports. For field processed Special Structural Inspection forms, review for accuracy and ensure that they identify all work requiring Special Inspections. Complete any missing information (i.e., project and/or permit numbers, types of work, etc.).

SPECIAL INSPECTOR: The individual(s) or firm(s) responsible for the Special Structural Inspections sand tests hall **complete a signed daily written report** after each site visit requiring Special Inspection. The Special Structural Inspector(s) shall ensure that all reports are posted with the permit at the job site and are available to the City of Santa Maria Building Inspector for review. All discrepancies shall be brought to the immediate attention of the contractor for correction and, if uncorrected, to the registered design professional in responsible charge, contractor, etc. and to the City of Santa Maria Building Inspector. The Special Structural Inspector shall be familiar with the City of Santa Maria's Special Inspection and Observation Manual.

The Special Structural Inspector shall submit a **final signed report** to the RDPRC, contractor, and to the City of Santa Maria Building Inspector providing final test and inspection results and stating whether the items requiring special structural inspection were, to the best of the inspector's knowledge in compliance with the approved plans, listings, specifications, and applicable workmanship provisions of the code. Final Special Structural Inspection approval and/or issuance of the Certificate of Occupancy will not occur until all Special Structural Inspection tests and reports have been received, reviewed and accepted by the City of Santa Maria Building Department.



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SPECIAL ARCHITECTURAL INSPECTIONS CERTIFICATE

(General Requirements and Instructions on the backside of form)

POST AT JOB SITE WITH PERMIT

TO BE COMPLETED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE

Table with 3 columns: Project Name, Project Address, Plan Review/Permit Number; Project Owner/Owner's Agent Name, Mailing Address, Phone No.; Engineer or Architect of Record Name, Mailing Address, Phone No.; Firm Name, Email Address, Fax No.

I hereby affirm that I am familiar with the architectural design of this project and have been designated by the Owner/Owner(s) Agent as the registered design professional in responsible charge for establishing the Architectural Special Inspections Program required by the City of Santa Maria Municipal Code, Title 9 Building Regulations Section 9-1.223; C.B.C. Sections [A] 110.3.9, 1705.12.5, 1705.14, 1705.15, 1705.16 and 1705.17. I have determined that the types of work checked below require Special Architectural Inspection and that the building official qualified individual(s) or firm(s) named below are to be employed by the project owner to perform the special inspection(s). I understand and agree to inform the Project Owner, the Contractor and the Special Inspector(s) about the Special Architectural Inspection Program requirements and limitations, including that the Special Inspector is to be either the Designated Registered Design Professional familiar with the materials and design or Third-Party Individual(s) or Firm(s), and shall not be the installing Contractor. I am familiar with the City of Santa Maria's 2016 Special Inspection and Observation Manual available for review.

(Seal, Sign, and Date)

Table with 4 columns: C, P, TYPES OF WORK REQUIRING SPECIAL ARCHITECTURAL INSPECTION **, QUALIFIED SPECIAL INSPECTOR INDIVIDUAL(S) OR FIRM(S). Rows include: Adhered or Anchored Veneer above 8 feet, C.B.C., §1705.12.5; Anchorage of Access Floors in structures assigned to Seismic Design Category D, E or F, C.B.C., §1705.12.5.1; Sprayed Fire Resistant Materials, C.B.C., §1705.14; Mastic and Intumescent Fire Resistant Coatings, C.B.C., §1705.15; Exterior Insulation and Finish System (EIFS), C.B.C., §1705.16; Fire Resistant Penetrations & Joints, Risk Category III & IV, C.B.C., §1705.17

C..... Indicates continuous inspection is required

P..... Indicates periodic inspections are required. The construction documents should clarify.

All special inspection reports were received, reviewed and found to be in conformance with the approved plans. REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE (DO NOT SIGN UNTIL REPORT(S) RECEIVED)

(SIGNATURE)

(DATE)

** All construction or work for which a permit is required shall be subject to inspection by the Building Division and all such construction or work shall remain accessible and exposed for inspection purposes until approved by the building official.

SPECIAL INSPECTION IS IN ADDITION TO INSPECTIONS BY THE CITY BUILDING INSPECTORS (C.B.C., SECTION [A] 110)

Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of the building code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of the building code or of other ordinances of the jurisdiction shall not be valid.

It shall be the duty of the permit applicant to cause the work to remain accessible and exposed for inspection purposes. Neither the building official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow all required inspections.

SPECIAL ARCHITECTURAL INSPECTIONS PROGRAM

The following are general requirements and instructions for processing the Special Architectural Inspections Program Certificate and general information for persons responsible for the Special Architectural Inspections.

GENERAL REQUIREMENTS:

California Building Code (C.B.C.) Sections [A] 110.3.9, 1705.12.5, 1705.14, 1705.15, 1705.16 and 1705.17 require Special Architectural Inspections for the types of work specified in California Building Code and as Amended by the City of Santa Maria Municipal Code, Title 9 Building Regulations Section 9-1.223. Special Architectural Inspections include, but are not limited to, observation of the work assigned for conformance with the approved design drawings and specifications, and submission of appropriate inspection reports to the Registered Design Professional in Responsible Charge, Contractor and City of Santa Maria Building Inspector.

The Special Architectural Inspector shall be a qualified person who demonstrates competence to the satisfaction of the building official for the type of work requiring Special Architectural Inspection. The Building Official shall rely on the registered design professional in responsible charge for Special Inspections to help determine the individual(s) or firm(s) qualified to perform each type of test or inspection. These individual(s) or firm(s) shall be responsible for performing the Special Architectural Inspection tasks and reports required by the C.B.C. and City of Santa Maria Regulations. The Special Inspector shall be familiar with the City of Santa Maria's Special Inspection and Observation Manual available for review. **The Special Architectural Inspector(s) shall be the designated registered design professional familiar with the materials and design or a third-party individual, firm or testing agency and shall not be the installing contractor.**

INSTRUCTIONS

REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE: Complete all information requested on this form. Indicate the TYPES OF WORK requiring Special Architectural Inspections and the building official qualified Individual(s) or Firm(s) authorized to perform each such inspection. Seal, sign and date the form. Submit the form to the city with the permit application whenever the code requires special architectural inspections. **Sign and date the bottom of the form after the final inspection report has been received, reviewed and accepted.**

PLAN REVIEWER: Review the Special Architectural Inspections Certificate for accuracy and ensure that it identifies all work requiring Special Architectural Inspections. Complete any missing information (i.e., project and/or permit numbers) if known and indicate on the permit(s) "Special Architectural Inspection Required." The Special Architectural Inspections Certificate shall normally be processed before permit issuance; however, the department may choose to attach a blank certificate to the plans or permit to be processed by the registered design professional in responsible charge, contractor, etc. In this case, the permit(s) will be marked "Special Architectural Inspections Required - Field Process Certificate."

CITY BUILDING INSPECTOR: Review the Special Architectural Inspections Certificate for the name of the registered design professional in responsible charge, contractor, etc. for the Special Architectural Inspections Program and the names of the individual(s) and/or firm(s) authorized to perform Special Architectural Inspections. Address any Special Inspection concerns of the Special Architectural Inspector(s). Attend any necessary job conferences related to Special Architectural Inspections procedures. Review all required Special Architectural Inspections field and final reports. For field processed Special Architectural Inspection Certificates, review for accuracy and ensure that they identify all work requiring Special Architectural Inspections. Complete any missing information (i.e., project and/or permit numbers, types of work, etc.).

SPECIAL INSPECTOR: The individual(s) or firm(s) responsible for the Special Architectural Inspections shall **complete a signed daily written report** after each site visit requiring Special Inspection. The Special Architectural Inspector(s) shall ensure that all reports are posted with the permit at the job site and are available to the City of Santa Maria Building Inspector for review. All discrepancies shall be brought to the immediate attention of the contractor for correction and, if uncorrected, to the registered design professional in responsible charge, contractor, etc. and to the City of Santa Maria Building Inspector. The Special Architectural Inspector shall be familiar with the City of Santa Maria's Special Inspection and Observation Manual available for review.

The Special Architectural Inspector shall submit a **final signed report** to the Registered Design Professional in Responsible Charge, Contractor and to the City of Santa Maria Building Inspector providing final inspection and test results and stating whether the items requiring Architectural Special Inspection were, to the best of the inspector's knowledge in compliance with the approved plans, listings, specifications and applicable workmanship provisions of the code. Final inspection approval and/or issuance of Certificate of Occupancy will not occur until all Special Architectural Inspection reports and a signed Special Architectural Inspections Certificate have been received, reviewed and accepted by the City of Santa Maria Building Department.



City of Santa Maria

COMMUNITY DEVELOPMENT DEPARTMENT
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SPECIAL GEOTECHNICAL INSPECTIONS CERTIFICATE

(General Requirements and Instructions on the backside of form)

POST AT JOB SITE WITH PERMIT

TO BE COMPLETED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE

Table with 3 columns: Project Name, Project Address, Plan Review/Permit Number; Project Owner/Owner's Agent Name, Mailing Address, Phone No.; Architect, Geotechnical or Civil Engineer of Record Name, Mailing Address, Phone No.; Firm Name, Email Address, Fax No.

I hereby affirm that I am familiar with the Geotechnical Design of this project and have been designated by the Owner/Owner(s) Agent as the registered design professional in responsible charge for establishing the Geotechnical Special Inspections Program required by the City of Santa Maria Municipal Code, Title 9 Building Regulations, C.B.C. Section [A] 110.3.9 and C.B.C. Sections 1705.6 through 1705.9. I have determined that the types of work checked below require Special Geotechnical Inspection and that the Building Official qualified individual(s) or firm(s) named below are to perform the Special Inspections. I understand and agree to inform the Project Owner, Contractor and the Special Inspectors about the Special Inspection Program requirements and limitations, including that the Special Geotechnical Inspector is to be either the Designated Registered Design Professional familiar with the materials, methods and design or Third-Party Individuals or Firms, and shall not be the installing Contractor. I am familiar with the City of Santa Maria's 2016 Special Inspection and Observation Manual available for review.

(Seal, Sign, and Date)

Table with 4 columns: C, P, TYPES OF WORK REQUIRING SPECIAL GEOTECHNICAL INSPECTION **, QUALIFIED SPECIAL INSPECTOR INDIVIDUAL(S) OR FIRM(S). Rows include: Soils (Placement, Backfill, Compaction), Driven Deep Foundations, Cast-in-Place Deep Foundations, Helical Pile Foundations, Other (Please Specify).

C..... Indicates continuous inspection is required

P..... Indicates periodic inspections are required. The construction documents should clarify.

All special inspection reports were received, reviewed and found to be in conformance with the approved plans. REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE (DO NOT SIGN UNTIL REPORT(S) RECEIVED)

(SIGNATURE)

(DATE)

** All construction or work for which a permit is required shall be subject to inspection by the Building Division and all such construction or work shall remain accessible and exposed for inspection purposes until approved by the building official.

SPECIAL INSPECTION IS IN ADDITION TO INSPECTIONS BY THE CITY BUILDING INSPECTORS (C.B.C., SECTION [A] 110)

Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of the building code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of the building code or of other ordinances of the jurisdiction shall not be valid.

It shall be the duty of the permit applicant to cause the work to remain accessible and exposed for inspection purposes. Neither the building official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow all required inspections.

SPECIAL GEOTECHNICAL INSPECTIONS PROGRAM

The following are general requirements and instructions for processing the Special Geotechnical Inspections Program Certificate and general information for persons responsible for the Special Geotechnical Inspections.

GENERAL REQUIREMENTS:

C.B.C. Section [A] 110.3.9, C.B.C. Sections 1705.6, through 1705.9 require Special Geotechnical Inspections for the types of work specified in California Building Code as Amended by the City of Santa Maria Municipal Code, Title 9 Building Regulations Section 9-1.101. Special Geotechnical Inspections include, but are not limited to, observation of the work assigned for conformance with the approved design drawings and specifications, and submission of appropriate inspection reports to the City of Santa Maria Building Inspector.

The Special Geotechnical Inspector shall be a qualified person who demonstrates competence to the satisfaction of the building official for the type of work requiring Special Geotechnical Inspection. The Building Official also relies on the registered design professional in responsible charge for Special Inspections to help identify the individual(s) or firm(s) found qualified to perform each type of test or inspection. These individual(s) or firm(s) shall be responsible for performing the Special Geotechnical Inspection tasks and prepare reports required by the C.B.C. and City of Santa Maria Regulations. The Special Geotechnical Inspector shall be familiar with the City of Santa Maria's 2016 Special Inspection and Observation Manual available for review. **The Special Geotechnical Inspector(s) shall be a designated registered design professional familiar with the materials and design or a third-party individual, firm or testing agency and shall not be the installing contractor.**

INSTRUCTIONS

REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE: Complete all information requested on this Special Inspection Geotechnical Certificate. Indicate the TYPES OF WORK requiring Special Geotechnical Inspections and the Individual(s) or Firm(s) qualified and authorized by the building official to perform each such inspection. Seal, sign and date the Certificate. Submit to the city with the permit application whenever the code requires special geotechnical inspections. **Sign and date the original Certificate after the final inspection report has been received, reviewed and accepted.**

PLAN REVIEWER: Review the Special Geotechnical Inspections Program Certificate for accuracy and ensure that it identifies all work requiring Special Geotechnical Inspections. Complete any missing information (i.e., project and/or permit numbers) if known and indicate on the permit(s) "Special Geotechnical Inspection Required." The Special Geotechnical Inspections certificate shall normally be processed before permit issuance; however, the department may choose to attach a blank certificate to the plans or permit to be processed by the registered design professional in responsible charge, contractor, etc. In this case, the permit(s) will be marked "Special Geotechnical Inspections required - Field Process Certificate."

CITY BUILDING INSPECTOR: Review the Special Geotechnical Inspections Program Certificate for the name of the registered design professional in responsible charge, contractor, etc. for the Special Geotechnical Inspections Program and the names of the individual(s) and/or firm(s) authorized to perform Special Geotechnical Inspections. Address any Special Inspection concerns of the Special Geotechnical Inspector(s). Attend any necessary job conferences related to Special Inspections procedures. Review all required Special Geotechnical Inspection daily and final reports. For field processed Special Geotechnical Inspection certificates, review for accuracy and ensure that they identify all work requiring Special Geotechnical Inspections. Complete any missing information (i.e., project and/or permit numbers, types of work, etc.).

SPECIAL INSPECTOR: The individual(s) or firm(s) responsible for the Special Geotechnical Inspections shall **complete a signed daily written report** after each site visit requiring Special Inspection. The Special Geotechnical Inspector(s) shall ensure that all reports are posted with the permit at the job site and are available to the City of Santa Maria Building Inspector for review. All discrepancies shall be brought to the immediate attention of the contractor for correction and, if uncorrected, to the registered design professional in responsible charge, contractor, etc. and to the City of Santa Maria Building Inspector. The Special Geotechnical Inspector shall be familiar with the City of Santa Maria's Special Inspection and Observation Manual.

The Special Geotechnical Inspector shall submit a **final signed report** to the Registered Design Professional in Responsible Charge, Contractor and to the City of Santa Maria Building Inspector providing final inspection and test results, and stating whether the items requiring Special Geotechnical inspection were, to the best of the inspector's knowledge in compliance with the approved plans, specifications and applicable workmanship provisions of the code. Final inspection approval and/or issuance of Certificate of Occupancy will not occur until all Special Geotechnical Inspection reports have been received, reviewed and accepted by the City of Santa Maria Building Department.



City of Santa Maria

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SPECIAL MECHANICAL / PLUMBING INSPECTIONS CERTIFICATE

(General Requirements and Instructions on the backside of form)

POST AT JOB SITE WITH PERMIT

TO BE COMPLETED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE

Table with 3 columns: Project Name, Project Address, Plan Review/Permit Number; Project Owner/Owner's Agent Name, Mailing Address, Phone No.; Engineer or Architect of Record Name, Mailing Address, Phone No.; Firm Name, Email Address, Fax No.

I hereby affirm that I am familiar with the mechanical and/or plumbing design of this project and have been designated by the Owner/Owner(s) Agent as the registered design professional in responsible charge for establishing the Mechanical and/or Plumbing Special Inspections Program required by the City of Santa Maria Municipal Code, Title 9 Building Regulations Sections 9-1.224 thru 9-1.226 amending C.B.C. Sections 1705.19, 1705.20 & 1705.21; C.B.C. Sections [A] 110.3.9, 1705.12.6 & 1705.18. C.P.C. §1319. I have determined that the types of work checked below require Mechanical and/or Plumbing Special Inspection and that the individual(s) or firm(s) named below are qualified by the Building Official to perform the special mechanical and/or plumbing inspections. I understand and agree to inform the Project Owner, Contractor and the Special Inspectors about the Special Inspection Program requirements and limitations, including that the Special Mechanical and/or Plumbing Inspector is to be either a Designated Registered Design Professional familiar with the materials, methods and design or Third-Party Individuals or Firms, and shall not be the installing Contractor. I am familiar with the City of Santa Maria's 2016 Special Inspection and Observation Manual available for review.

(Seal, Sign, and Date)

Table with 3 columns: C, P, TYPES OF WORK REQUIRING SPECIAL MECHANICAL INSPECTION ** (Attach Supplement if Necessary); QUALIFIED SPECIAL INSPECTOR INDIVIDUAL(S) OR FIRM(S) (Attach Supplement if Necessary). Rows include: Installation, Anchorage & Vibration Isolation of hazardous piping & ductwork; Testing for Smoke Control Systems; Testing of Smoke Detectors; Installation of 2-Layer Fire-Resistive Duct Wrap Systems; Installation and Testing of Unlisted Gas Fired Appliances; Testing & Inspection of Medical Gas and Vacuum Systems; Other (Please Specify).

C..... Indicates continuous inspection is required.

P..... Indicates periodic inspections are required. The construction documents should clarify.

All special inspection reports were received, reviewed and found to be in conformance with the approved plans. REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE (DO NOT SIGN UNTIL REPORT(S) RECEIVED)

(SIGNATURE) (DATE)

** All construction or work for which a permit is required shall be subject to inspection by the Building Division and all such construction or work shall remain accessible and exposed for inspection purposes until approved by the building official.

SPECIAL INSPECTION IS IN ADDITION TO INSPECTIONS BY THE CITY BUILDING INSPECTORS (C.B.C., SECTION [A] 110)

Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of the building code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of the building code or of other ordinances of the jurisdiction shall not be valid.

It shall be the duty of the permit applicant to cause the work to remain accessible and exposed for inspection purposes. Neither the building official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow all required inspections.

SPECIAL MECHANICAL AND/OR PLUMBING INSPECTIONS PROGRAM

The following are general requirements and instructions for processing the Special Mechanical and/or Plumbing Inspections Program Certificate and general information for persons responsible for the Special Inspections.

GENERAL REQUIREMENTS:

C.B.C. Sections [A] 110.3.9, 1705.12.6, 1705.18, 1705.19, 1705.20, 1705.21 and C.P.C., Section 1319 require Special Mechanical and/or Plumbing Inspections for the types of work specified in California Building, Mechanical and Plumbing Codes as Amended by the City of Santa Maria Municipal Code, Title 9 Building Regulations Sections 9-1.224 thru 9-1.226. Special Mechanical and/or Plumbing Inspections include, but are not limited to, testing and observation of the work assigned for conformance with the approved design drawings and specifications, and submission of appropriate testing and inspection reports to the City of Santa Maria Building Inspector.

The Special Mechanical and/or Plumbing Inspector shall be a qualified person who demonstrates competence to the satisfaction of the building official for the type of work requiring Special Mechanical and/or Plumbing Inspection. The Building Official also relies on the registered design professional in responsible charge for Special Inspections to help identify the individual(s) or firm(s) found qualified to perform each type of test or inspection. These individual(s) or firm(s) shall be responsible for performing the Special Mechanical and/or Plumbing Inspection tasks and reports required by the C.B.C., C.P.C. and City of Santa Maria Regulations. The Special Mechanical and/or Plumbing Inspector shall be familiar with the City of Santa Maria's 2016 Special Inspection and Observation Manual. **The Special Mechanical and/or Plumbing Inspector(s) shall be a designated registered design professional familiar with the methods, materials and design or a third-party individual, firm or testing agency and shall not be the installing contractor.**

INSTRUCTIONS

REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE: Complete all information requested on this certificate. Indicate the TYPES OF WORK requiring Special Mechanical and/or Plumbing Inspections and the Individual(s) or Firm(s) qualified and authorized by the building official to perform each such inspection. Seal, sign and date the form. Submit the certificate to the city with the permit application whenever the code requires special mechanical and/or plumbing inspections. **Sign and date the original certificate after the final inspection report has been received, reviewed and accepted.**

PLAN REVIEWER: Review the Special Mechanical and/or Plumbing Inspections Program certificate for accuracy and ensure that it identifies all work requiring Special Mechanical and/or Plumbing Inspections. Complete any missing information (i.e., project and/or permit numbers) if known and indicate on the permit(s) "Special Mechanical and/or Plumbing Inspection Required." The Special Mechanical and/or Plumbing Inspections certificate shall normally be processed before permit issuance; however, the department may choose to attach a blank form to the plans or permit to be processed by the registered design professional in responsible charge, contractor, etc. In this case, the permit(s) will be marked "Special Mechanical and/or Plumbing Inspections required - Field Process Certificate."

CITY BUILDING INSPECTOR: Review the Special Mechanical and/or Plumbing Inspections Program certificate for the name of the registered design professional in responsible charge, contractor, etc. for the Special Mechanical and/or Plumbing Inspections Program and the names of the individual(s) and/or firm(s) authorized to perform Special Mechanical and/or Plumbing Inspections. Address any Special Inspection concerns of the Special Mechanical and/or Plumbing Inspector(s). Attend any necessary job conferences related to Special Inspections procedures. Review all required Special Inspection daily and final reports. For field processed Special Mechanical and/or Plumbing Inspection certificates, review for accuracy and ensure that they identify all work requiring Special Mechanical and/or Plumbing Inspections. Complete any missing information (i.e., project and/or permit numbers, types of work, etc.).

SPECIAL INSPECTOR: The individual(s) or firm(s) responsible for the Special Mechanical and/or Plumbing Inspections shall **complete a signed daily written report** after each site visit requiring Special Inspection. The Special Mechanical and/or Plumbing Inspector(s) shall ensure that all reports are posted with the permit at the job site and are available to the City of Santa Maria Building Inspector for review. All discrepancies shall be brought to the immediate attention of the contractor for correction and, if uncorrected, to the registered design professional in responsible charge, contractor, etc. and to the City of Santa Maria Building Inspector. The Special Mechanical and/or Plumbing Inspector shall be familiar with the City of Santa Maria's Special Inspection and Observation Manual.

The Special Mechanical and/or Plumbing Inspector shall submit a **final signed report** to the Registered Design Professional in Responsible Charge, Contractor and to the City of Santa Maria Building Inspector providing final inspections and test results, and stating whether the items requiring Special Mechanical and/or Plumbing inspection were, to the best of the inspector's knowledge in compliance with the approved plans, listings, specifications and applicable workmanship provisions of the code. Final inspection approval and/or issuance of Certificate of Occupancy will not occur until all Special Mechanical and/or Plumbing Inspection reports have been received, reviewed and accepted by the City of Santa Maria Building Department.



City of Santa Maria

COMMUNITY DEVELOPMENT DEPARTMENT
110 South Pine Street, Suite 101, Santa Maria, CA 93458-5078
Phone: 805-925-0951 #2241 (Voice) or Fax: 805-928-8275



SPECIAL ELECTRICAL INSPECTIONS CERTIFICATE

(General Requirements and Instructions on the backside of form)

POST AT JOB SITE WITH PERMIT

TO BE COMPLETED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE

Table with 3 columns: Project Name, Project Address, Plan Review/Permit Number; Project Owner/Owner's Agent Name, Mailing Address, Phone No.; Engineer of Record Name, Mailing Address, Phone No.; Firm Name, Email Address, Fax No.

I hereby affirm that I am familiar with the electrical design of this project and have been designated by the Owner/Owner(s) Agent as the registered design professional in responsible charge for establishing the Electrical Special Inspections Program required by the City of Santa Maria Municipal Code, Title 9 Building Regulations Sections 9-1.227 & 9-2.211; C.B.C. Sections [A] 110.3.9, 1705.22 and C.E.C., Article 80.19(F)6 of Annex H as amended. I have determined that the types of work checked below require Electrical Special Inspection and that the individual(s) or firms named below are qualified by the Building Official to perform the special inspections. I understand and agree to inform the Project Owner, the Contractor and the Special Inspectors about the Special Inspection Program requirements and limitations, including that the Special Inspector is to be either a Designated Registered Design Professional familiar with the materials and design or Third-Party Individuals or Firms, and shall not be the installing Contractor. I am familiar with the City of Santa Maria's 2016 Special Inspection and Observation Manual available for review.

(Seal, Sign, and Date)

Table with 3 columns: C, P, TYPES OF WORK REQUIRING SPECIAL ELECTRICAL INSPECTION **, QUALIFIED SPECIAL INSPECTOR INDIVIDUAL(S) OR FIRM(S). Rows include Ground-Fault Protection Systems, Switchboards, Distribution Boards and Motor Control Centers, Solar Photovoltaic Systems, Hazardous Locations, Healthcare Facility, and Installation of Critical Operations Power Systems (COPS).

C..... Indicates continuous inspection is required

P..... Indicates periodic inspections are required. The construction documents should clarify.

The special inspection report(s) were received, reviewed and found to be in conformance with the approved plans. REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE (DO NOT SIGN UNTIL REPORT(S) RECEIVED)

(SIGNATURE)

(DATE)

** All construction or work for which a permit is required shall be subject to inspection by the Building Division and all such construction or work shall remain accessible and exposed for inspection purposes until approved by the building official.

SPECIAL INSPECTION IS IN ADDITION TO INSPECTIONS BY THE CITY BUILDING INSPECTORS (C.B.C. SECTION [A] 110)

Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of the building code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of the building code or of other ordinances of the jurisdiction shall not be valid. It shall be the duty of the permit applicant to cause the work to remain accessible and exposed for inspection purposes. Neither the building official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow all required inspections.

SPECIAL ELECTRICAL INSPECTIONS PROGRAM

The following are general requirements and instructions for processing the Special Electrical Inspections Program Certificate and general information for persons responsible for the Special Electrical Inspections.

GENERAL REQUIREMENTS:

C.B.C. Sections [A] 110.3.9, 1705.22 and C.E.C., Article 80.19(F)6 of Annex H require Special Electrical Inspections for the types of work specified in the California Electrical Code as Amended by the City of Santa Maria City Municipal Code, Title 9 Building Regulations, Section 9-1.227 and 9-2.211. Special Electrical Inspections include, but are not limited to, observation of the work assigned for conformance with the approved design drawings and specifications, and submission of appropriate inspection reports to the City of Santa Maria Building Inspector.

The Special Electrical Inspector shall be a qualified person who demonstrates competence to the satisfaction of the building official for the type of work requiring Special Inspection. The Building Official shall rely on the registered design professional in responsible charge for Special Inspections to help in determining the individual(s) or firm(s) qualified to perform each type of test or inspection. These individual(s) or firm(s) shall be responsible for performing the Special Electrical Inspection tasks and reports required by the C.B.C. and City of Santa Maria Regulations. **The Special Electrical Inspector(s) shall be a designated registered design professional familiar with the materials and design or a third-party individual, firm or testing agency and shall not be the installing contractor.**

INSTRUCTIONS

REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE (RDPRC): Complete all information requested on this certificate. Indicate the TYPES OF WORK requiring Continuous or Periodic Special Electrical Inspections and the Individual(s) or Firm(s) qualified and authorized by the building official to perform each such inspection. Seal, sign and date the certificate. Submit certificate to the city with the permit application whenever the code requires special electrical inspections. **Sign and date the bottom of the certificate after the final electrical special inspection report has been received, reviewed and accepted.**

PLAN REVIEWER: Review the Special Electrical Inspections Program Certificate for accuracy and ensure that it identifies all work requiring Special Electrical Inspections. Complete any missing information (i.e., project and/or permit numbers) if known and indicate on the permit(s) "Special Electrical Inspection Required." The Special Electrical Inspections certificate shall normally be processed before permit issuance; however, the department may choose to attach a blank certificate to the plans or permit to be processed by the registered design professional in responsible charge, contractor, etc. In this case, the permit(s) will be marked "Special Electrical Inspections required - Field Process Certificate."

CITY BUILDING INSPECTOR: Review the Special Electrical Inspections Program Certificate for the name of the registered design professional in responsible charge, contractor, etc. for the Special Electrical Inspections Program and the names of the individual(s) and/or firm(s) authorized to perform Special Inspections. Address any Special Electrical Inspection concerns of the Special Electrical Inspector(s). Attend any necessary job conferences related to Special Electrical Inspections procedures. Review all required Special Electrical Inspections daily and final reports. For field processed Special Electrical Inspection Certificate, review for accuracy and ensure that they identify all work requiring Special Electrical Inspections. Complete any missing information (i.e., project and/or permit numbers, types of work, etc.).

SPECIAL INSPECTOR: The individual(s) or firm(s) responsible for the Special Electrical Inspections shall **complete a signed daily written report** after each site visit requiring Special Inspection. The Special Electrical Inspector(s) shall ensure that all reports are posted with the permit at the job site and are available to the City of Santa Maria Building Inspector for review. All discrepancies shall be brought to the immediate attention of the contractor for correction and, if uncorrected, to the registered design professional in responsible charge, contractor, etc. and to the City of Santa Maria Building Inspector. The Special Electrical Inspector shall be familiar with the City of Santa Maria's Special Inspection and Observation Manual.

The Special Electrical Inspector shall submit a **final signed report** to the Registered Design Professional in Responsible Charge, Contractor and to the City of Santa Maria Building Inspector providing final electrical inspection and test results, and stating whether the items requiring special electrical inspection were, to the best of the inspector's knowledge in compliance with the approved plans, listings, specifications and applicable workmanship provisions of the code. Final inspection approval and/or issuance of Certificate of Occupancy will not occur until the Special Electrical Inspection reports and a signed Special Inspection Certificate have been received, reviewed and accepted by the City of Santa Maria Building Department.