



# Structural Observation Program

**Based on the 2016 California Building Code  
(CBC) Chapter 17**

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**City of San Luis Obispo, Building & Safety Division**

919 Palm San Luis Obispo, CA 93401

(805) 781-7180 • Fax: (805) 781-7173

[www.slocity.org](http://www.slocity.org)

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## I. INTRODUCTION

This is the Structural Observation program for the City of San Luis Obispo Building & Safety Division. The policy and procedures are stipulated as well as the responsibilities of all parties involved in structural observation.

Structural observation is intended to assist and supplement the work of the Building Official. Structural observation by itself does not certify, guarantee or ensure conformance with all of the specific requirements of the approved plans. It does not provide the quality assurance of continuous inspection, nor does it include or waive the responsibility for progress or continuous inspections by the building inspector or special inspector.

The requirement for having a registered engineer or licensed architect present during key construction phases provides an additional observation of the gravity and/or lateral load structural systems by a knowledgeable observer. This will substantially increase the likelihood that the structural system will be in general conformance with the approved plans by tracking the load paths to prevent gross errors and omissions.

## II. DEFINITIONS

**Structural observation** is the visual observation of the structural system by a registered design professional for general conformance to the approved construction documents. Structural observation does not include or waive the responsibility for the inspection required by Section 110, 1704 or other sections of the California Building Code.

**Structural Observation Schedule** lists the stages of construction identified by the Structural Observer as significant and that require site structural observation.

**Structural Observer** is the engineer or architect responsible for the structural design, or a registered engineer or licensed architect designated by the engineer or architect responsible for the structural design to perform site structural observation required by the City of San Luis Obispo Beach Building & Safety Division.

**Designated Observer** is a registered engineer or licensed architect designated by the engineer or architect responsible for the structural design to perform site structural observation.

## III. PROJECTS REQUIRING STRUCTURAL OBSERVATION

Structural observation is required by the 2016 California Building Code (CBC) Section 1704.6. Structural observation shall be provided for those structures included in Seismic Design Category D, E or F, as determined in section 1613, where one or more of the following conditions exist:

1. The structure is classified as Occupancy Category III or IV in accordance with section 1604.5
2. The height of the structure is greater than 75' above the base as defined in ASCE 7.
3. The structure is assigned to Seismic Design Category E, is classified as Occupancy Category I or II in accordance with section 1604.5 and is greater than two stories above grade plane.
4. When so designated by the registered design professional in responsible charge of the design.
5. When such observation is specifically required by the building official.

Structural observations shall be provided for those structures sited where the basic wind speed exceeds 110 mph (49 m/sec) determined from Figures 1609 A, B & C, or where one or more of the following conditions exist:

1. The structure is classified as Occupancy Category III or IV in accordance with Table 1604.5.
2. The building height of the structure is greater than 75 feet as defined in ASCE 7 .

3. When so designated by the registered design professional responsible for the structural design.
4. When such observation is specifically required by the building official.

#### **IV. DOCUMENTING STRUCTURAL OBSERVATION REQUIREMENT**

Prior to the issuance of a building permit, the design professional in responsible charge shall ensure that the “STRUCTURAL OBSERVATION PROGRAM AND DESIGNATION OF THE STRUCTURAL OBSERVER” form is completed and submitted to the Building Official for review and acceptance. The architect or engineer of record responsible for the design of the building or structure shall specify a structural observation schedule on a structural sheet of the project plan set similar to the Structural Observation Schedule indicated on the referenced form. The “GENERAL NOTES FOR STRUCTURAL OBSERVATION” included in part VI of this document shall be made part of the approved plans.

The individual or firm responsible for performing the structural observation shall be employed by the owner, and this information shall be specified on the “STRUCTURAL OBSERVATION PROGRAM AND DESIGNATION OF THE STRUCTURAL OBSERVER” form. Such individual or firm may be called the “Structural Observer of Record” for the project. The structural observer of record must meet the following three conditions:

1. The structural observer must be a person or firm registered in the state of California to practice engineering or architecture.
2. The structural observer must have direct contractual relationship with the owner, or owner’s representative, to provide the structural observation service.
3. The structural observer must be either the engineer or architect of record for the structural design, or another engineer or architect designated by the engineer or architect of record. The architect or engineer of record shall complete the “STRUCTURAL OBSERVATION PROGRAM AND DESIGNATION OF THE STRUCTURAL OBSERVER” form included in part VII of this document when another engineer or architect is designated as the “Structural Observer”.

Note: The person who actually performs the visual structural observation at the construction site in the field may be either the Structural Observer of Record, or an engineer (registered) or architect (licensed) under responsible charge of the Structural Observer of Record.

#### **V. EXECUTION OF STRUCTURAL OBSERVATION**

##### **Pre-construction meeting**

The owner or owner’s representative shall arrange a preconstruction meeting to be attended by the engineer or architect responsible for structural design, structural observer, contractor, affected subcontractors, special inspectors, and the building inspector. The purpose of the meeting shall be to identify the major structural elements and connections that affect the vertical and lateral load systems of the structure and to review scheduling of required observations.

##### **Performing Structural Observation and Submission of Structural Observation and Reports**

The structural observer shall perform structural observation at the construction site in accordance with the Structural Observation Schedule and approved plans. Upon completion of structural observation at each construction stage, the structural observer of record shall complete the Structural Observation Report form.

When a deficiency with respect to general conformance with the approved plans or the load path is noted, the form shall be given to the contractor, owner’s representative, special inspector, and the building inspector. The structural observer shall note on the form whether the correction of the deficiency needs to be verified through re-observation by him/her or a registered special inspector at the discretion of the Structural Observer.

A licensed/registered engineer or architect, who works under the supervision of the structural observer of record and actually performs the observation, may fill out a report noting any observed deficiencies. That person's name and registration number shall be noted in the report. The report shall be reviewed, completed, stamped and signed by the Structural Observer of Record, who shall take responsibility for the report.

### **Inspection by Building Inspector**

Generally, to obtain City of San Luis Obispo Building & Safety Division inspection approval at the foundation, and framing, and final inspection stages, a Structural Observation Report is required stating that the noted deficiencies, if any, have been corrected with respect to general conformance with the approved plans and load path.

Structural Observation does not include or waive the responsibility of the inspections required by the City of San Luis Obispo Building & Safety Division.

## **VI. GENERAL NOTES FOR STRUCTURAL OBSERVATION**

1. Structural observation is required for the structural system in accordance with the City of San Luis Obispo Building & Safety Division's Structural Observation Program. Structural Observation is the visual observation at the construction site of the elements and connections of the structural system at significant construction stages and the complete structure for general conformance to the approved plans and specifications. Structural observation does not waive responsibility for the inspections required by the City of San Luis Obispo Building & Safety Division or any of the special inspectors.
2. The owner shall employ a State of California registered civil or structural engineer or licensed architect to perform the structural observation.
3. The owner or owner's representative shall coordinate a call for a meeting between the engineer or architect responsible for the structural design, structural observer, contractor, affected subcontractors, special inspectors and the City of San Luis Obispo Building & Safety Division. The purpose of the meeting shall be to identify the major structural elements and connections that affect the vertical and lateral load systems of the structure and to review scheduling of the required observations. A record of the meeting shall be included in the first observation report submitted to the Building Official.
4. The structural observer shall perform site visits at those steps in the progress of the work that allow for correction of deficiencies without substantial effort or uncovering of the work involved. At a minimum, the listed items on the Structural Observation Schedule require site visits and an observation report from the structural observer.
5. The structural observer shall prepare a Structural Observation Report for each significant construction stage observed. The original of the Structural Observation report shall be sent to the Building Official and shall be signed and sealed with a wet stamp by the responsible structural observer. One copy of the observation report signed and sealed with a wet stamp by the responsible structural observer or their designee shall be retained at the project site for the use of the owner, contractor, and inspectors. Any deficiency noted on the observation report will become the responsibility of the structural engineer of record to verify its completion by him/her, or by a registered special inspector at the discretion of the structural observer.
6. A final observation report must be submitted which shows that all observed deficiencies are resolved and the structural system generally conforms with the approved plans and specifications. The City of San Luis Obispo Building & Safety Division will not accept the structural work

without this final observation report and that of the approved special inspector, including the correction of specific deficiencies noted by the City building inspector.

7. The structural observer shall provide the original stamped and signed Structural Observation report to the City of San Luis Obispo Building & Safety Division.
8. When the owner elects to change the structural observer of record, the owner shall:
  - a) Notify the Building Official in writing before the next inspection by submitting a revised “Structural Observation Program and Designation of the Structural Observer” form,
  - b) Call an additional preconstruction meeting; and
  - c) Furnish the replacement structural observer with a copy of all previous observation reports.

The replacement structural observer shall approve the correction of all the original observed deficiencies unless otherwise approved by plan check supervision. The policy of the City of San Luis Obispo Building & Safety Division shall be to correct any properly noted deficiencies without consideration of their source.

9. The engineer or architect of record shall develop all changes relating to the structural systems. The City of San Luis Obispo Building & Safety Division shall review and approve all changes to the approved plans and specifications.

## **VII. FORMS**

**See following pages.**



**STRUCTURAL OBSERVATION PROGRAM  
 AND DESIGNATION OF THE STRUCTURAL OBSERVER**

Project Address: \_\_\_\_\_ Permit No. \_\_\_\_\_

Project Description: \_\_\_\_\_

\_\_\_\_\_  
 Design Professional in Responsible Charge                      Signature

<b>STRUCTURAL OBSERVATION SCHEDULE</b> (checked items are required)			
<b>Frequency: Prior to Foundation or Framing Inspection by Building Inspector unless indicated otherwise.</b>			
<b>FOUNDATION</b>	<b>WALL</b>	<b>FRAME</b>	<b>DIAPHRAGM</b>
<input type="checkbox"/> Footing, Stem Walls, Piers	<input type="checkbox"/> Concrete	<input type="checkbox"/> Steel Moment Frame	<input type="checkbox"/> Concrete
<input type="checkbox"/> Mat Foundation	<input type="checkbox"/> Masonry	<input type="checkbox"/> Steel Braced Frame	<input type="checkbox"/> Steel Deck
<input type="checkbox"/> Caissons, Piles, Grade Beams	<input type="checkbox"/> Wood	<input type="checkbox"/> Concrete Moment Frame	<input type="checkbox"/> Wood
<input type="checkbox"/> Hillside, Retaining	<input type="checkbox"/> Other (List)	<input type="checkbox"/> Masonry Wall Frame	<input type="checkbox"/> Other (List)
<input type="checkbox"/> Special Anchors		<input type="checkbox"/> Other (List)	
<input type="checkbox"/> Other (List)			

**The above structural observation requirements shall be imprinted on a sheet of the plan set.**

**DECLARATION AND ACKNOWLEDGEMENT OF STRUCTURAL OBSERVATION**

I, the structural engineer of record (EOR) for the above project, declare responsibility for the structural observation of this project. If necessary, I designate an alternate Structural Observer as indicated.

\_\_\_\_\_  
 Engineer of Record (EOR)                      Signature of Engineer                      CA Registration No.

\_\_\_\_\_  
 Structural Observer if different from the EOR                      CA Registration No.                      Date

I, owner of the project, acknowledge that the above listed firm or individual is hired by me to be the Structural Observer.

\_\_\_\_\_  
 Owner's Name                      Signature                      Date



**STRUCTURAL OBSERVATION REPORT FORM**

STRUCTURAL OBSERVATION means the visual observation of the structural system by a registered design professional for general conformance to the approved construction documents. Structural observation does not include or waive the responsibility for the inspection required by Section 110, 1704 or other sections of this code and other Sections of the 2016 California Building Code.

This report includes work through \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ Page No. \_\_\_\_\_ of \_\_\_\_\_

Project Address:		Structural Observer of record (SOR):	Phone No. of SOR:
Building Permit No:	Structural Observation Performed by:	Professional Lic./Reg. No. of Observer	Phone No. of Observer:

**OBSERVED STRUCTURAL ELEMENTS AND THEIR CONNECTIONS**

FOUNDATION	WALL	FRAMES	FLOOR	ROOF	ELEMENTS/CONNECTIONS OBSERVATION LOCATION
<input type="checkbox"/> Footing, Stem walls, Piers	<input type="checkbox"/> Concrete	<input type="checkbox"/> Steel Moment Frame	<input type="checkbox"/> Concrete	<input type="checkbox"/> Concrete	
<input type="checkbox"/> Mat Foundation	<input type="checkbox"/> Masonry	<input type="checkbox"/> Steel Braced Frame	<input type="checkbox"/> Steel Deck	<input type="checkbox"/> Steel Deck	
<input type="checkbox"/> Caissons, Piles, Grade Beams	<input type="checkbox"/> Wood	<input type="checkbox"/> Concrete Moment Frame	<input type="checkbox"/> Wood	<input type="checkbox"/> Wood	
<input type="checkbox"/> Retaining Foundation Hillside Special Anchors	<input type="checkbox"/> Other	<input type="checkbox"/> Masonry Moment Frame	<input type="checkbox"/> Other	<input type="checkbox"/> Other	
<input type="checkbox"/> Other		<input type="checkbox"/> Other			

**NOTED DEFICIENCIES with respect to general conformance with the approved plans or in load path, and proposed corresponding corrective actions:** *(A final report by the structural observer stating that all observed deficiencies have been resolved is required before acceptance of the work by the building official)*

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**I DECLARE THAT THE FOLLOWING STATEMENTS ARE TRUE TO THE BEST OF MY KNOWLEDGE:**

1. I am the engineer or architect retained by the owner to be in responsible charge for the structural observation in accordance with the requirements of the City of San Luis Obispo Beach Building & Safety Division.
2. I, or another engineer or architect who I have designated above and is under my responsible charge, has performed the required site visits at each significant construction stage to verify if the structure is in general conformance with the approved plans and specifications.
3. All noted deficiencies which remain to be corrected have been indicated above.
4. I recommend that acceptance of the structural system by the City of San Luis Obispo be withheld until all observed deficiencies are corrected.

Stamp of Structural Observer

Signature of Structural Observer \_\_\_\_\_ Date \_\_\_\_\_