



# Clark County Department of Building & Fire Prevention

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<b>Division:</b>	<b>BUILDING &amp; FIRE PREVENTION</b>	<b>Policy &amp; Procedure:</b>	TG-10
<b>Subject:</b>	<b>STRUCTURAL OBSERVATION</b>	<b>Effective Date:</b>	01/02/2020
<b>Code:</b>	<b>2018 IBC 1704.6</b>	<b>Revised Date:</b>	12/31/2019

**1.0 PURPOSE:** The purpose of this technical guideline is to specify the requirements for structural observation for projects built within the jurisdiction of Clark County.

**2.0 SCOPE:** Structural observation shall be performed for those structures where one or more of the conditions outlined in IBC Section 1704.6 exist. Additionally, the Building Official is requiring structural observation on all buildings defined as resort hotels under Clark County Code Title 30, high rise buildings as defined in the Southern Nevada Amendments to the IBC, and atriums as defined in the IBC.

### 3.0 ABBREVIATIONS & ACRONYMS:

**BAC:** Building Administrative Code of Clark County

**CCBD:** Clark County Building Department

**IBC:** International Building Code

**RDP:** Registered Design Professional

**QAA:** Quality Assurance Agency

**QAA-SIA:** Quality Assurance Agency Special Inspection Agreement

**TG:** Technical Guideline

**4.0 DEFINITIONS:** For the purposes of this TG certain terms, phrases, words and their derivatives shall be construed as specified in this section and the BAC.

**Approved Construction Document:** Construction documents that have been reviewed and accepted for permit by the Building Official pursuant to the BAC.

**Atrium:** See IBC Section 404. An opening connecting two or more stories other than enclosed stairways, elevators, hoist ways, escalators, plumbing, electrical, air-conditioning or other equipment, which is closed at the top and not defined as a mall. Stories, as used in this definition, do not include balconies within assembly groups or mezzanines that comply with IBC Section 505.

**Certificate of Compliance:** A cover letter template issued by CCBD for use by the structural observer to document the completion of structural observations and compliance to the requirements in the approved structural observation plan.

**Engineer of Record:** The registered design professional in responsible charge of the structural and/or geotechnical design of the subject project.

**High Rise Building:** A building with an occupied floor located more than 55 feet above the lowest level of fire department vehicle access.

**Registered Design Professional:** An individual who is registered or licensed to practice their respective design profession as defined by the statutory requirements of the professional registration laws of the state or jurisdiction in which the project is to be constructed.

**Resort Facility:** See Title 30.08.030 Clark County Unified Development Code.

**Structural Observation:** The visual observation of the structural system encompassing the structure, foundation elements, and soils within the influence zone of the foundation elements by a registered design professional for general conformance to the approved construction documents at significant stages and at completion of the structural system. Structural observation does not waive the responsibility for the inspection required by the BAC, IBC, referenced standards, and approved TGs.

**Structural Observer:** The registered design professional in responsible charge of the structural observation services. The structural observer is required to have the minimum licensing requirements as the project's engineer of record. The engineer performing the field structural observation shall be employed by the same firm as the structural observer and shall have a current civil or structural professional engineering license from the State of Nevada.

**Structural Observation Report (Form 802):** A standard form issued by CCBD for use by the structural observer to document the structural observations.

## 5.0 REFERENCES:

BAC	Clark County Building Administrative Code
IBC	International Building Code
SNA-IBC	Southern Nevada Amendments to the International Building Code
Title 30	Clark County Unified Development Code, current adopted edition

## 6.0 RESPONSIBILITIES:

### 6.1 CCBD:

CCBD shall require structural observation as specified in the scope of this TG.

### 6.2 Owner:

The owner shall employ a structural observer to perform the structural observations in accordance with the approved structural observation plan. The structural observer shall not be employed by the QAA listed on the QAA-SIA nor shall they be employed by the contractor as the Quality Control inspection firm, except when the structural observer is also the engineer of record for the discipline, they are observing (i.e; geotechnical or structural). It is the owner's responsibility to coordinate with the contractor and the structural observer to ensure that the structural observer is able to perform the duties as required in the approved structural observation plan.

### 6.3 Structural Observer:

The registered design professional hired by the owner shall perform the structural observations in accordance with the approved structural observation plan and shall submit reports as required in this TG.

## **7.0 PROCEDURE:**

### **7.1 Prior to Permit Issuance:**

- 7.1.1 CCBD shall notify the point of contact on the permit application and the engineer(s) of record that structural observation is required in the initial plan review correction letter. This notification shall include a request to provide a structural observation plan which would outline the schedule of the required structural observations. A separate observation plan from the geotechnical engineer of record and the structural engineer of record may be required.
- 7.1.2 The engineer(s) of record shall submit a written structural observation plan to CCBD for approval. This document is required to be sealed by the appropriate engineer of record. The plan shall require structural observation to be performed at significant construction stages and at the completion of the structural system.
  - 7.1.2.1 Structural Engineer of Record: At a minimum, structural observation shall be performed for all lateral elements, prior to placement of concrete for the foundation system, for all atypical levels of construction, 20% of the remaining levels rounded up to the nearest level, at the completion of the structural system and as required by the structural engineer of record. Additional structural observations may be required by the Building Official depending upon the complexity of the project.
  - 7.1.2.2 Geotechnical Engineer of Record: At a minimum, structural observation shall be performed on the first five foundation elements, prior to placement of concrete for the foundation system, 20% of the remaining foundation elements, and as required by the geotechnical engineer of record. Additional structural observations may be required by the Building Official depending upon the complexity of the project.
- 7.1.3 CCBD shall review, indicate any required corrections, and approve the structural observation plan. Once approved by the CCBD the structural observation plan is considered an approved construction document. Any revisions to the approved structural observation plan shall be submitted to and approved by CCBD prior to execution.
- 7.1.4 The owner shall employ a registered design professional to perform the structural observations and notify CCBD in writing of the selected structural observer.
- 7.1.5 The selected structural observer shall review the construction documents and the structural observation plan. The structural observer shall submit a written statement to the Building Official prior to permit issuance. The structural observer's written statement shall state that the construction documents and the structural observation plan have been reviewed and contain an acknowledgement that all requirements are understood. The written statement shall also include the names and license number(s) of the structural observer and those that will perform the field structural observations.

### **7.2 After Permit Issuance:**

- 7.2.1 The structural observer shall perform the required structural observations in accordance with the approved structural observation plan. No concrete shall be placed or any portion of the structural system covered or loaded prior to the structural observation and resolution of any noted discrepancies.

- 7.2.2 It is the Contractor's responsibility to coordinate the Structural Observation visits in such a way that the engineer performing the structural observation is able to perform the duties outlined in the structural observation plan and allow for the implementation of any corrections necessary.
- 7.2.3 The structural observer shall submit Form 802 to CCBD indicating that the required structural observation has been performed after each site observation has been completed in accordance with the approved structural observation plan. Form 802 shall be submitted to the Building Official within 24 hours of the structural observation being completed.
- 7.2.4 The structural observer shall clearly identify the work observed by using gridlines and elevations, where applicable.
- 7.2.5 The structural observer shall notify the contractor, special inspector, CCBD, and the owner of any observed discrepancies.
- 7.2.6 The owner shall coordinate with the contractor and ensure that areas with unresolved discrepancies are not covered or loaded until all discrepancies are resolved.
- 7.2.7 CCBD shall issue the appropriate enforcement action and ensure that all noted discrepancies are resolved.
- 7.2.8 The contractor shall correct all noted discrepancies indicated on Form 802 and notify the structural observer when the discrepancies are corrected. The corrected work shall not be covered until the structural observer has observed the corrected work.
- 7.2.9 The structural observer shall document the observation of the corrected work, the method of correction, and attach any documents utilized to resolve the discrepancy to Form 802.
- 7.2.10 CCBD shall review the submitted Forms 802 and enter the appropriate disposition for the "Structural Observation Inspection"; approved (AP), approved with exception (AE), or disapproved (DA). CCBD shall enter a "Structural Observation Inspection" for each submitted structural observation report.
- 7.2.11 The structural observer shall submit a Certificate of Compliance to CCBD in accordance with Appendix A at the completion of the project
- 7.2.12 CCBD shall review and accept the Certificate of Compliance and resolve the "Structural Observation Inspection". A final building inspection shall not be scheduled until the geotechnical and structural Certificates of Compliance have been approved by CCBD.

## **8.0 RECORDS:**

All documents associated with the structural observation shall be sent to the Records Division.

## **9.0 ATTACHMENTS:**

Appendix A – Final Structural Observation Cover Letter Template  
Appendix B – Structural Observation Report Form 802

**Prepared By:** John S. Telford, P.E.

**Date Prepared:** 12/31/2019

**Revision History:**

Title	Revision/Approved Date	Effective Date
TG-10-2009 STRUCTURAL OBSERVATION	September 11, 2009	October 31,2009
TG-10-2013 STRUCTURAL OBSERVATION	April 05, 2013	May 01, 2013
TG-10-2020 STRUCTURAL OBSERVATION	January 01,2020	February 01,2020

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**Appendix A**  
**Final Structural Observation Report Cover Letter Template**

**COMPANY LETTERHEAD  
ADDRESS, TELEPHONE & FAX #**

**CERTIFICATE OF COMPLIANCE**

CLIENT INFO

DATE

**Final Structural Observation Report**

Project Name:

Project Address:

Permit No.

Project No.

**COMPANY NAME** performed and completed the structural observation services for the **PROJECT NAME** project and find the work is in compliance with the Clark County Building Department approved structural observation plan.

Only licensed engineers designated in the approved acknowledgement statement were utilized to perform those structural observations as required by the approved structural observation plan. All observed discrepancies were noted on the Form 802 have been corrected to meet the intent of the approved construction documents.

Attached for your review are the structural observation reports and other applicable reports.

CCBD REVIEW STAMP

STRUCTURAL OBSERVER  
SEAL HERE

**Appendix B**  
**Structural Observation Report Form 802**





# CLARK COUNTY BUILDING DEPARTMENT STRUCTURAL OBSERVATION REPORT



PERMIT NO: \_\_\_\_\_ ADDRESS: \_\_\_\_\_

OBSERVER FIRM NAME: \_\_\_\_\_ OBSERVER NAME: \_\_\_\_\_

This form was submitted to the following individuals.

Entity	Name	Entity	Name
CCDB		Owner's Representative	
Contractor		Special Inspector	

**Discrepancies Observed** (Date) \_\_\_\_\_

(List discrepancies) \_\_\_\_\_

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**Discrepancies Resolved** – Resolution(s) are in accordance with the approved construction documents (list resolution and date).

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**Structural Observation Approved**

I hereby acknowledge that I performed the structural observations in accordance with the approved structural observation plan and TG-10. The work that has been observed complies with the intent of the approved construction documents.

Observations (describe the observations and locations; foundation, level 1, gridlines) \_\_\_\_\_

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Attachments \_\_\_\_\_

Form 802 \_\_\_\_\_

REGISTERED DESIGN  
PROFESSIONAL SEAL HERE

# STRUCTURAL OBSERVATION REPORT PROCEDURE

**This form is available at the Clark County Department of Building web site**

- 1.0** Where structural observation is required, a Structural Observation Final Report will be added as a Condition of Approval to the list of required clearances. The building inspector responsible for the structural inspections shall enter a Structural Observation inspection each time an observation report is submitted and reviewed.
- 2.0** The contractor shall coordinate structural observation visits with the structural observer. The contractor shall cause areas to be exposed to allow full access to perform the observations listed in the approved structural observation plan. It is the contractor's responsibility to ensure that no concrete shall be placed, or any portion of the structural system covered or loaded prior to the completion of structural observations and resolution of any noted discrepancies.
- 3.0** The structural observer shall perform structural observations as required in the approved structural observation plan. The structural observer shall document each visit on a Structural Observation Report (Form 802).
- 4.0** The structural observer shall document their observations of conforming work under the "Discrepancies Noted" and clearly identify the area or item observed by using gridlines and elevations.
- 5.0** If the structural observer identifies work that does not conform to the intent of the approved construction documents, he/she shall list each discrepancy under the "Discrepancies Observed". Each discrepancy shall include a location and a detailed description of the discrepancy. The structural observer shall state why the item is a discrepancy.
  - 5.1** The structural observer shall notify the contractor, special inspector, CCBD, and the owner of any observed discrepancies.
  - 5.2** CCDB shall issue the appropriate enforcement action and ensure that all discrepancies are resolved.
  - 5.3** The owner shall coordinate with the contractor and ensure that areas with unresolved discrepancies are not covered or loaded until all discrepancies are resolved.
  - 5.4** The structural observer shall resolve the discrepancy on the original structural observation report that identified the discrepancy; state how the condition has been resolved; and state that the work is in compliance with CCDB approved construction documents. The structural observer shall document the date the discrepancy was resolved and attach any document used to resolve a discrepancy.
- 6.0** The structural observer shall submit a sealed and signed Form 802 to CCDB within 24 hours of performing the structural observations.
- 7.0** The structural observer (geotechnical and structural) shall submit a Certificate of Compliance after the completion of all structural observations required in the approved structural observation plan.
- 8.0** CCDB shall review submitted Forms 802s and the Certificates of Compliance. Once approved, CCDB shall resolve the Structural Observation inspections accordingly.