



Office of Statewide Health Planning and Development
Facilities Development Division (FDD)



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Standard Structural Review Comments
Based on the 2016 California Building Standards Code (CBSC 2016)

Applicable to single-story Type V skilled nursing or intermediate care facilities utilizing wood-frame or light steel-frame construction for OSHPD 2 projects **received after January 1, 2017**.

(a) Marked plans and response

The structural comments are shown on this set of drawings in red. Each comment is identified by a number such as S-1, S-2, S-3, etc., and is enclosed in a cloud.

The text of standard structural comments called out on the review set by "2016(a)" etc., can be found in the attached list of standard structural comments.

The comments are based on the California Building Code, 2016 (CBC 2016) and California Administrative Code, 2016 (CAC 2016).

In order to facilitate the back check, please respond in writing to each comment. Your response may be in the form of a letter or each response may be written on this final review set of drawings near the comment in a color other than red or green. If the responses are presented in a letter, identify the comment by drawing number and the comment number. In either case, each response should specify how and where on the resubmitted drawings, specifications, or calculations the OSHPD comments have been resolved.

If you have any questions, please do not hesitate to call the Structural Reviewer:

(Name & Phone Number)

Reference: The CBC 2016 Sections 105 and 107.

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(b) Equipment Supports and Attachments Exempt from Construction Documents Review

Show the following note prominently on the plans:

"Work exempt from construction documents review by the CBC 2016 Section 105.2 or ASCE 7 Section 13.1.4 need not be detailed on the construction documents. Exemptions from construction documents review requirements of the code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this jurisdiction. The Inspector of Record (IOR) shall assure that the above requirements are enforced."

Reference: The CBC 2016 Sections 105 and 1616.

(c) Intent of the Construction Documents

Due to the difficulty of anticipating every unsatisfactory condition that may arise in connection with an existing facility where alteration or reconstruction work is proposed, the following clause or one of similar meaning shall be included on the construction documents:

"The intent of the construction documents is to reconstruct the building in accordance with the CBSC 2016. Should any condition develop not covered by the construction documents wherein the finished work will not comply with the CBSC 2016, a change order detailing and specifying the required work shall be submitted to and approved by OSHPD before proceeding with the work."

Reference: The CBC 2016 Section 116.

(d) Pipes, Ducts, and Conduits Supports and Attachments

Provide calculations and drawings for the supports and attachments of all pipes, ducts, and conduits. If an OSHPD Preapproval of Manufacturer's Certification (OPM) is specified for the supports and attachments, calculations and details for the supporting structure may still be required. Once the exact location of all pipes, ducts, and conduits have been established, the Registered Design Professional (RDP) shall verify the adequacy of the supporting structure to ensure that the original design is still adequate.

Reference: The CAC 2016 Sections 7-115, 7-126 and CBC 2016 Section 107.

(e) Equipment Specification

Design specifications for equipment shall specify the design lateral forces and special seismic certification requirements. Alternatively, the specifications may require that equipment be able to resist the forces and satisfy the structural integrity and functionality requirements in accordance with the 2016 CBC.

Reference: 2016 CBC Section 1705.13.3.1 and ASCE 7-10 Chapter 13.

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(f) Equipment Supports and Attachments

Provide details on the construction documents and substantiating calculations for the supports and attachments of fixed equipment/components as required by the CBSC 2016. See comment 2016(b) for exemption to construction documents requirement.

Equipment/components shall be anchored if it is permanently attached to the building utility services such as electricity, gas, or water. For the purposes of this requirement, "permanently attached" shall include all electrical connections except plug in connections.

The details shall be clearly coordinated with the calculations and the manufacture's literature. Sketches shown in the calculations for the purpose of illustrating the analytical method are not adequate. OSHPD does not approve calculations; therefore, they cannot appear on the approved construction documents.

These details and calculations may not necessarily be the responsibility of the Structural Engineer of Record (SEOR).

Reference: The CAC 2016 Sections 7-115, 7-126 and CBC 2016 Section 107.

(g) Deferred Approval

Design of the Seismic Force Resisting System (SFRS), Primary Gravity Load Resisting System (PGLRS) and Stairs shall not be deferred.

Where the supports, attachments, and special seismic certification cannot yet be determined, then their approval may be deferred if all of the following conditions are met:

- 1) The supports, attachments, and special seismic certification cannot be fully detailed on the approved construction documents because of variations in product design or manufacture; e.g., the manufacturer has not yet been chosen, or specified equipment has performance criteria only.
- 2) All items requiring deferred approval are listed under a separate heading on the drawings, preferably on the title sheet, and on a letter size sheet that will be attached to the building permit. This list shall include the maximum weight of the equipment for which the supporting structure was designed. Clearly indicate that OSHPD approval of the deferred portion is required prior to fabrication and/or installation.
- 3) The construction documents shall fully describe the performance and loading criteria for such work. The design of the supporting building structure cannot be deferred; therefore, show the maximum allowable equipment weight on the drawings. When the equipment is chosen, comparing the actual equipment weight to the maximum allowable equipment weight shown on the drawings can substantiate the adequacy of the supporting structure.

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- 4) The architect and/or engineer responsible for preparation of construction documents for the main project, as listed on the applications, shall review and forward the construction documents for the deferred approval items to OSHPD with the appropriate application form.
- 5) Supports, attachments, special seismic certification, and associated calculations shall be submitted sufficiently in advance of the desired date of approval to provide time for the initial review by OSHPD and at least one cycle of response and back check review.

Reference: 2016 CAC Section 7-126 and 2016 CBC Sections 107.3.4.2 and 1705.13.3.1.

(h) Vibration Isolators

For all vibration isolators and their supports and attachments, provide calculations, details, and/or test data to substantiate the isolator's capacity for vertical and lateral forces or use isolators used in shake table testing for special seismic certification. If the supports and attachments are not pre-approved, then calculations shall also be submitted to substantiate the size, quantity, location, and connection to structure of the vibration isolators. The construction documents shall be coordinated with the calculations and clearly specify the manufacturer, model type, model number, base plate size, quantity used and location at each piece of equipment, and how it is attached to the structure. Vibration isolators which support a component inside the prefabricated unit will not be reviewed.

Reference: The CAC 2016 Sections 7-115, 7-126 and CBC 2016 Section 107.

(i) Post-Installed Anchors

For all post-installed anchors show on the construction documents the manufacturer, type, diameter, minimum embedment, concrete type(s) and strength(s). Show the actual magnitudes of the test loads on the construction documents. Testing is required in accordance with the CBC 2016 Section 1901.3.4.

Reference: The CBC 2016 Sections 107 and 1901.3.

(j) Signature - Structural Engineer

All final construction documents shall bear the structural engineer's stamp or seal, signature, and expiration date.

Reference: The CAC 2016 Section 7-115 and CBC 2016 Section 107.

(k) Geohazards Report

Provide a geohazard report in accordance with the CBC 2016 Section 1803.7.

Reference: The CAC 2016 Section 7-115 and CBC 2016 Section 107.

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(l) Geotechnical Report

Provide a geotechnical report in accordance with the CBC 2016 Section 1803.6.

Reference: The CAC 2016 Section 7-117 and CBC 2016 Section 107.

- (m) Separate the substantiating documentation (e.g. calculations, manufacturer cut sheets, etc.) from the construction documents (e.g. drawings, specifications, TIO, etc.) to be stamped "Reviewed for Code Compliance" by OSHPD and bind them separately. OSHPD only approve construction documents, it does not approve substantiating documentation. These substantiating documents should be submitted if they are required for approval of the construction documents but they shall not be bound with the construction documents to be stamped "Reviewed for Code Compliance". For Amended Construction Documents (ACDs), clearly identify the documents to be stamped "Reviewed for Code Compliance" by numbering all of the sheets which comprise changes to the existing OSHPD approved construction documents. Provide a cover sheet with a complete index of the documents to be stamped "Reviewed for Code Compliance". Changes to the existing OSHPD "Reviewed for Code Compliance" construction documents shall be identified by clouding them on the plans or identifying them by some other means.

Reference: The CBC 2016 Section 107

(n) Equipment Not In Contract (NIC)

For all new or relocated equipment to be installed under the scope of this application and designated as "by others" or "not in contract," it is the responsibility of the architect and/or the structural engineer in responsible charge of the project to sign and submit the necessary construction documents, and supporting calculations to OSHPD for review and approval. Alternatively, exclude the equipment from the construction documents and the scope of this application. All equipment thus excluded can be installed only after obtaining the approval of OSHPD under a separate application.

Reference: The CAC 2016 Sections 7-115 and 7-126.

(o) Kitchen Equipment

Provide calculations and details for the support and attachments of all kitchen equipment that is to be permanently fastened to the building or utilities.

Reference: The CAC 2016 Sections 7-115 and 7-126

(p) Grab Bars

Show on the drawings details of how grab bars and/or tub and shower seats, located in handicapped toilets and shower stalls, are connected to the supporting structure. See the CBC 2016 Section 1607.7 for required strength.

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Reference: The CBC 2016 Section 1607.

(q) Television and Monitor Brackets

The design of wall or ceiling mounted television and monitor brackets shall comply with the ASCE 7 Chapter 13. The design shall include: 1) The connection of the bracket to the structure; 2) The supporting structure; 3) The bracket itself; and 4) The connection of television and monitor to bracket.

Reference: The CBC 2016 Section 1613.

(r) Fire Sprinklers

Show a note on the plans or in the specifications requiring that the spacing and details of the support and bracing of fire sprinkler piping comply with NFPA 13 with applicable SFM amendments. Provide supports and attachments detail and calculations for the connection of sway bracing to the structure. Where applicable, details for the supports and attachments may be referred to an OSHPD Preapproval of Manufacturer's Certification (OPM). All layout drawings of the sprinkler system shall be submitted to OSHPD for review and approval prior to installation.

Reference: The CBC 2016 Sections 1613 and 107.

(s) Tests, Inspections and Observations

A Testing, Inspection and Observation (TIO) program shall be developed, submitted and approved during the plan review process. See the CAC 2016 Section 7-141 for requirements. An acceptable TIO form can be down loaded from the OSHPD website.

OSHPD approval of the TIO program including the individuals and/or firms who will perform the specified tests and/or inspections shall be required prior to issuance of a building permit.

Reference: The CAC 2016 Section 7-141.

(t) Incomplete submittals

The following comments are based on a preliminary or incomplete submittal. A more thorough review will be made upon re-submittal and additional comments will follow.

Reference: The CAC 2016 Section 7-121.