

OSHPD

State of California – Health and Human Services Agency

OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT



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TESTING, INSPECTION AND OBSERVATION PROGRAM – 2001 CALIFORNIA BUILDING STANDARDS CODES - OSHPD 1 Page 1 of 13

This program is prepared and submitted for an OSHPD 1 project. OSHPD 1 projects include all construction and remodel projects for general acute-care hospitals and acute psychiatric hospitals. OSHPD 1 projects also include construction and remodel of skilled nursing facilities and/or intermediate care facilities except those of single-story, Type V, wood or light steel-frame construction.

A	Facility Name	Project Number
	Address – Street	Sub Number
	City	Facility ID Number
	Title of Project	

B	TESTS – DOCUMENTATION / CERTIFICATION REQUIRED			CONSTRUCTION VERIFICATION	OFFICE USE ONLY
	STRUCTURAL TESTS	RESPONSIBLE FIRM OR INDIVIDUAL	TBD	IOR	FDD CONST. ACCEPTANCE
	Compact fill CBC 3301.1 Filled material acceptance test				DSE:
	Compact fill CBC 3301.1 Compaction test				DSE:
	Concrete CBC 1903A.1.2 , 1903A.2 & 1929A.1 Cement				DSE:
	Concrete CBC 1903A.1.2, 1903A.3.1 & 1903A.3.2.1 Aggregates/Reactive aggregates				DSE:
	Concrete CBC 1903A.1.2 & 1903A.6 Admixtures				DSE:
	Concrete CBC 1904A, 1905A.2.3 & 1905A.3 Mix design (Select method A, B or C)				DSE:
	Concrete CBC 1905A.6 Strength test				DSE:
	Concrete CBC 1903A.5 & 1929A.2 Metal reinforcement (incl. welded wire fabric)				DSE:
	Concrete CBC 1903A.5.5 & 1929A.3 Prestressing tendons and anchorage				DSE:
	Shotcrete CBC 1924A.5 Preconstruction test				DSE:
	Shotcrete CBC 1924A.10 Strength test				DSE:
	Shotcrete CBC 1924A.11.2 Core test				DSE:
	Masonry CBC 2102A.2 Material standards tests				DSE:
	Masonry CBC 2103A.3 Mortar proportion, Aggregates				DSE:
	Masonry CBC 2103A.4 Grout proportion, Aggregates				DSE:
	Masonry CBC 2103A.5 Additives				DSE:
	Masonry CBC 2105A.3.1 Core test				DSE:
	Masonry CBC 2105A.3.2, 3.3, 3.4 or (3.5) Compressive strength f'm test				DSE:

TBD To Be Determined-The name of the firm or individual to perform this test or special inspection shall be submitted to and approved by the Office prior to proceeding with the work that requires this test or special inspection.



Facility Name	Project Number	Sub Number
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B	TESTS – DOCUMENTATION / CERTIFICATION REQUIRED			CONSTRUCTION VERIFICATION	OFFICE USE ONLY
	STRUCTURAL TESTS	RESPONSIBLE FIRM OR INDIVIDUAL	TBD	IOR	FDD CONST ACCEPTANCE
	Steel CBC 2203A.2 & 2231A.1 Structural steel & cold formed steel				DSE:
	Steel CBC 2231A.2 High strength bolts, nuts and washers				DSE:
	Steel CBC 2231A.3 End-welded studs				DSE:
	Steel CBC 2231A.7 Open web steel joists (Load Test)				DSE:
	Steel CBC 1703A Nondestructive weld test				DSE:
	Steel CBC 2231A.8 Beam to column moment connections				DSE:
	Miscellaneous CBC 1923A.3.5 Expansion and epoxy anchors				DSE:
	Miscellaneous CBC 1605A.4 Shot-in anchors for ceiling wires				DSE:
	Miscellaneous CBC 1403A.5.6 Veneer bond strength test				DSE:
	Miscellaneous CBC 1704A Prefabricated items				DSE:
	Miscellaneous CBC 1605A.4 Epoxy injection				DSE:
	Structural Design Requirements 1605A.4 Tests to Support Alternative Designs				DSE:
	Base Isolation CBC 1665A Isolator unit prototype & production testing				DSE:
	ELECTRICAL TESTS	RESPONSIBLE FIRM OR INDIVIDUAL	TBD	IOR	FDD CONST ACCEPTANCE
	Ground fault protection CEC 230-95c & 517-17c Performance test				ACO:
	Emergency power CEC 700.4(A) Power failure test NFPA 110-1999 5-13.2.3				FLSO:
	Emergency power CEC 700.4(A) Full load test NFPA 110-1999 5-13.2.5				FLSO:
	Emergency power CEC 700.4(A) Cycle crank test NFPA 110-1999 5-13.2.8				FLSO:
	Emergency power CEC 700.4(A) Exit signs, exit lighting & fire alarms NFPA 110-1999 5-13.2.3				FLSO:
	Emergency power CEC 700.4(A) Task lighting, medical gas alarms NFPA 110-1999 5-13.2.3				ACO:
	Emergency power CEC 700.4(A) Receptacle, nurse & staff call NFPA 110-1999 5-13.2.3				ACO:
	Emergency power CEC 700.4(A) Elevators NFPA 110-1999 5-13.2.3				ACO:

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B	TESTS – DOCUMENTATION / CERTIFICATION REQUIRED			CONSTRUCTION VERIFICATION	OFFICE USE ONLY
	MECHANICAL TESTS	RESPONSIBLE FIRM OR INDIVIDUAL	TBD	IOR	FDD CONST ACCEPTANCE
	Commercial kitchen hood ventilation CMC 509.11 Performance test				ACO:
	Refrigeration equip. CMC 116.3 & 1123.0				ACO:
	Refrigeration detection & alarm system CMC 1121.4 & CFC 6313.5 Acceptance testing				FLSO:
	Refrigeration flaring system CMC 1119.3 Safety & effectiveness				ACO:
	Steam & hot water boilers CMC 116.3 & 1023.0				ACO:
	Hydronics CMC 1201.2.8 Pressure test of steam & water piping				ACO:
	Hydronics CMC 1201.3.6 Pressure test of polybutylene piping				ACO:
	Hydronics CMC 1203.2 Pressure test of piping prior to embedding in concrete				ACO:
	Process piping CMC 1406.2 Pressure test				ACO:
	Ventilation system CMC 407.3.1 Table 4-A areas tested and balanced				ACO:
	Negative & positive pressure isolation rooms CMC 416.4 Alarm system test				ACO:
	Negative & positive pressure isolation rooms CMC 417.0 Mechanical system tested & balanced				ACO:
	PLUMBING TESTS	RESPONSIBLE FIRM OR INDIVIDUAL	TBD	IOR	FDD CONST ACCEPTANCE
	Potable water installations CPC 609.9, CBC 423A.5 & AWWA C651-92 Bacteriological examination/water purity test				ACO:
	Medical gas and vacuum CBC 423A.1, NFPA 99-2002 Gas and vacuum system performance testing				ACO:
	Medical gas and vacuum CBC 423A.1, NFPA 99-2002 Gas and vacuum system verification testing				ACO:
	Existing sewers & drains CPC 101.4.1.1.2 Tested for conformance with rqmnts. for new work				ACO:
	Water supply system CPC 103.5.1.1 & 609.4 Pressure tested prior to covering or concealment				ACO:
	Plumbing or drainage systems CPC 103.5.1.3 & 712.0 Water or air tested prior to use, covering or concealment				ACO:
	Building sewer CPC 103.5.1.3 & 723.0 Water or air tested prior to use, covering or concealment				ACO:
	Storm drain piping CPC 1109 Water or air tested prior to use, covering or concealment				ACO:
	Fuel piping CPC 1204.3.2 Air, CO ₂ or nitrogen tested prior to use, covering or concealment				ACO:
	Private sewer disposal system CPC 103.5.1.3 Tested prior to use, covering or concealment				ACO:

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B	TESTS – DOCUMENTATION / CERTIFICATION REQUIRED			CONSTRUCTION VERIFICATION	OFFICE USE ONLY
	PLUMBING TESTS	RESPONSIBLE FIRM OR INDIVIDUAL	TBD	IOR	FDD CONST ACCEPTANCE
	Protectively coated pipe CPC 103.5.3.4 Tested for voids, damage & imperfections				ACO:
	Joints and connections CPC 103.5.3.5 Pressure tested for gas and water tightness				ACO:
	Defective systems CPC 103.5.5.1 Air test of defective drainage & plumbing systems				ACO:
	Moved structures CPC 103.5.5.2 All parts of plumbing systems tested				ACO:
	Retesting CPC 103.5.6.2 Retest after corrections				ACO:
	Backflow prevention assembly CPC 603.3.3 Assembly tested				ACO:
	FIRE PROTECTION EQUIPMENT TESTS	RESPONSIBLE FIRM OR INDIVIDUAL	TBD	IOR	FDD CONST ACCEPTANCE
	Fire alarm CFC 1001.4, NFPA 72-2002 10.4.1 Acceptance and reacceptance testing				FLSO:
	Fire & smoke dampers CFC 1001.4 Acceptance testing				FLSO:
	Duct detectors CFC 1001.4, NFPA 72-2002 10.4.1 Differential pressure test				FLSO:
	Smoke control system CFC 1001.4, CBC 905.15 Acceptance testing				FLSO:
	Fire sprinkler CFC 1001.4, NFPA 13-2002 Ch. 16 Acceptance testing – Aboveground piping				FLSO:
	Fire sprinkler CFC 1001.4, NFPA 13-2002 Ch. 16 Acceptance testing – Underground piping				FLSO:
	Standpipe system CFC 1001.4, NFPA 14-2003 Acceptance testing – Aboveground piping				FLSO:
	Standpipe system CFC 1001.4, NFPA 14-2003 Acceptance testing – Underground piping				FLSO:
	Private fire mains CFC 1001.4, NFPA 24-2002 Ch. 10 Acceptance testing				FLSO:
	Fire pumps CFC 1001.4, NFPA 20-1999 Acceptance testing				FLSO:
	Wet chm extng sys. CFC 1001.4, NFPA 17A-2002 Acceptance testing				FLSO:
	Clean agent extng sys. CFC 1001.4, NFPA 2001- 2000 Acceptance testing				FLSO:
	CO ₂ extng system CFC 1001.4, NFPA 12-2000 Acceptance testing				FLSO:
	Dry chem extng sys CFC 1001.4, NFPA 17-2002 Acceptance testing				FLSO:
	Halon 1301 extng sys CFC 1001.4, NFPA 12A-1997 Acceptance testing				FLSO:

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TESTING, INSPECTION AND OBSERVATION PROGRAM – 2001 CALIFORNIA BUILDING STANDARDS CODES - OSHPD 1

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Facility Name	Project Number	Sub Number
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B	TESTS – DOCUMENTATION / CERTIFICATION REQUIRED			CONSTRUCTION VERIFICATION	OFFICE USE ONLY
	OTHER TESTS	RESPONSIBLE FIRM OR INDIVIDUAL	TBD	IOR	FDD CONST ACCEPTANCE
	Underground fuel tank CFC 7902.6.16 Pressure testing				FLSO:
	Underground fuel storage tank CFC 7902.6.15.4 Testing of corrosion protection				FLSO:
	Liquid fuel piping CFC 7901.11.10 Pressure testing				FLSO:

C	SPECIAL INSPECTIONS – DOCUMENTATION / CERTIFICATION REQUIRED			CONSTRUCTION VERIFICATION	OFFICE USE ONLY
	STRUCTURAL INSPECTIONS	RESPONSIBLE INDIVIDUAL	TBD	IOR	FDD CONST ACCEPTANCE
	Foundation CBC 1809A.6 Installation of piles				DSE:
	Foundation CBC 1809A.7.1 Cast in place belled caissons				DSE:
	Foundation CBC 3301.1 & 1701A.5, item 13 Fill for structures				DSE:
	Concrete CBC 1701A.5, item 1 Placement of concrete				DSE:
	Concrete CBC 1701A.5, item 2 Bolts installed in concrete				DSE:
	Concrete CBC 1701A.5, item 4 Reinforcing steel and prestressing steel				DSE:
	Concrete CBC 1701A.5, item 3 Special moment-resisting frame				DSE:
	Reinforced gypsum concrete CBC 1701A.5 item 8				DSE:
	Concrete CBC 1929A.4 Batch plant inspection				DSE:

TBD To Be Determined-The name of the firm or individual to perform this test or special inspection shall be submitted to and approved by the Office prior to proceeding with the work that requires this test or special inspection.



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C	SPECIAL INSPECTIONS – DOCUMENTATION / CERTIFICATION REQUIRED			CONSTRUCTION VERIFICATION	OFFICE USE ONLY
	STRUCTURAL INSPECTIONS	RESPONSIBLE INDIVIDUAL	TBD	IOR	FDD CONST ACCEPTANCE
	Concrete CBC 1929A.9.1 Prestressed concrete				DSE:
	Concrete CBC 1929A.10 Pneumatically placed concrete (shotcrete)				DSE:
	Concrete CBC 1701A.5, item 9 Insulating concrete				DSE:
	Concrete CBC 1929A.12 Welding of reinforcing bars				DSE:
	Concrete CBC 1704A Precast panels				DSE:
	Concrete CBC 1704A GFRP panels				DSE:
	Masonry CBC 2105A.7 Laying and grouting				DSE:
	Masonry CBC 2104A.6.1.1.2 & 2104A.6.1.2.2 Low lift grout				DSE:
	Masonry CBC 2104A.6.1.1.3 & 2104A.6.1.2.3 High lift grout				DSE:
	Steel CBC 2231A.4 Steel shop fabrication				DSE:
	Steel CBC 2231A.5 Automatic end-welded stud				DSE:
	Steel CBC 2231A.5 Shop and field welding				DSE:
	Steel CBC 2231A.6 High strength bolt installation				DSE:
	Wood CBC 2337A.1 Glue laminated timber				DSE:
	Wood CBC 2337A.2 Installation of timber connectors				DSE:
	Wood CBC 2337A.3 Manufactured trusses				DSE:
	Miscellaneous CBC 1405A Veneer				DSE:
	Miscellaneous ICBO Evaluation Report Installation of expansion & epoxy anchors				DSE:
	Miscellaneous CBC 1701A.5, item 15 Epoxy injection				DSE:
	Miscellaneous CBC 1701A.5, item 15 Site work where special hazards exist				FDD:
	Base isolation CBC Appendix 1664A.3 Isolator unit prototype & production testing				DSE:
	Aluminum CBC 2004A.8 Welding				DSE:

TBD To Be Determined-The name of the firm or individual to perform this test or special inspection shall be submitted to and approved by the Office prior to proceeding with the work that requires this test or special inspection.



INSTRUCTIONS FOR TESTING, INSPECTION AND OBSERVATION PROGRAM FORM (Sections A – E)

General Instructions

This form is intended to assist design professionals in organizing the requirements of Title 24, Part 1, (Sections 7-141, 7-145, 7-149, 7-151), in regards to a Testing, Inspection, and Observation (TIO) Program. When approved for a specific project by the Office of Statewide Health Planning and Development (OSHPD), Facilities Development Division (FDD), this TIO Program is considered to be part of the approved construction documents. This generic format may be reproduced and edited, but the essential elements described in Title 24, Part 1, must be maintained. The TIO Program must be made specifically appropriate for either OSHPD 1(Hospitals) or OSHPD 2 (typically Skilled Nursing Facilities) projects. Tests or inspections not specifically listed in Sections B or C may be added to the appropriate section under OTHER TESTS or OTHER INSPECTIONS.

Before the Building Permit may be approved and issued, OSHPD/FDD must have approved the following documents:

- Construction drawings and specifications
- Inspector(s) of Record (IOR). See 7-141(f)
- A Testing, Inspection, and Observation Program.

Section A

This section identifies the specific project that the TIO Program form applies to:

- FACILITY NAME – As shown on the Facility License issued by the Department of Health Services
- ADDRESS/STREET - The physical location of the construction project
- CITY – The city where the project is located
- TITLE OF PROJECT – As shown on the Application for Plan Review
- PROJECT NUMBER – As assigned by OSHPD
- INCREMENT, PHASE OR SUB NUMBER – As assigned by OSHPD
- FACILITY ID NUMBER – As assigned by OSHPD (a five character ID)

Section B

This section shall identify specific tests required by Title 24, Parts 2, 3, 4, or 5 for the above project. Many tests required by Title 24 are included. Some documents referenced by the designer (pre-approvals, IRs) may require special testing not directly required by Title 24, these must also be referenced and included. Tests may be grouped by subject matter for clarity. OSHPD Plan Review staff will review and approve this list of tests for accuracy and completeness. OSHPD Field Staff will review and approve the firms or individuals conducting the tests prior to issuing the Building Permit or prior to related work commencing. Section B layout shall include the following:

- TESTS COLUMN- A description by the design professional of the required tests grouped by discipline or subject matter. Reference the code section for required tests or reference approved plans or specifications for designer required tests.
- RESPONSIBLE FIRM OR INDIVIDUAL – When a test is required, indicate which firm or individual is responsible to carry out the test. This shall be a testing laboratory or qualified individual. When a testing laboratory or certified inspector is not required by other regulations, the firm or individual may be the contractor or installer. This information must be provided before the commencement of related work.
- TBD COLUMN – If the firm or individual performing the required test(s) has not been determined at the time of preparation of the program, place a check mark or an x in this column.



- CONSTRUCTION VERIFICATION / IOR - Once all tests of this specific kind are satisfactorily completed and documented, the IOR shall verify the completion with an initial and date.
- OFFICE USE ONLY CONSTRUCTION ACCEPTANCE / FDD – Upon completion of required tests, at least one OSHPD field staff; (Area Compliance Officer (ACO), Fire & Life Safety Officer (FLSO), or District Structural Engineer (DSE)) will review for compliance with the TIO program and indicate their acceptance with an initial and date. If no DSE is assigned to a particular project, the ACO shall initial acceptance of a test designated for DSE.

Section C

This section shall identify specific special inspections required by Title 24, Parts 2, 3, 4, or 5 for the above project. Some inspections required by Title 24 are included. Inspections may be grouped by subject matter for clarity. OSHPD Plan Review staff will review and approve this list of inspections for accuracy and completeness. OSHPD Field Staff will also review and approve the individuals conducting the inspections prior to issuing the Building Permit or prior to related work commencing. Section C layout shall include the following:

- INSPECTIONS COLUMN- A description by the design professional of the required inspections grouped by discipline or subject matter. Reference the code section for required inspections or reference approved plans or specifications for designer required inspections.
- RESPONSIBLE INDIVIDUAL – When an inspection is required, indicate which individual is responsible to carry out the inspections. This shall be a qualified individual. This information must be provided before the commencement of related work.
- TBD COLUMN – If the individual performing the required special inspection(s) has not been determined at the time of preparation of the program, place a check mark or an x in this column.
- CONSTRUCTION VERIFICATION / IOR - Once all inspections of this specific kind are satisfactorily completed and documented, the IOR shall verify the completion with an initial and date.
- OFFICE USE ONLY CONSTRUCTION ACCEPTANCE / FDD – Upon completion of required special inspections, at least one OSHPD field staff; (Area Compliance Officer (ACO), Fire & Life Safety Officer (FLSO), or District Structural Engineer (DSE)) will review for compliance with the TIO program and indicate their acceptance with an initial and date. If no DSE is assigned to a particular project, the ACO shall initial acceptance of an inspection designated for DSE.

Section D

The design professional in charge is responsible for fully describing the observations being proposed for OSHPD acceptance and for identifying who shall observe the elements of construction and when they shall be observed. Section D coordinates this effort into a table.

The rows of the table are the individual elements of construction to be observed. The columns of the table are the individuals, who must perform the observations. The required individuals are identified in Title 24, Part One, and may include: Geotechnical Engineer, Architect, Structural Engineer, Mechanical Engineer, Electrical Engineer, Contractor (or Owner/Builder), Inspector of Record, and all Special Inspectors. Each box marked with an 'X', indicates that a Verified Compliance Report must be filed at the described milestone or interval.

Elements of Construction may include but are not limited to; Construction Preparation, Site Work, Foundation, Concrete, Masonry, Steel, Wood, Roofing, Fire Rated Construction, Above Ceiling Components, Architectural Elements, Equipment Anchorage, Fire Protection Systems, Miscellaneous Systems, Plumbing Systems, Mechanical Systems, Electrical Systems, and Substantial Completion. OSHPD Plan Review must accept this list of observations as complete.

The Inspector of Record shall maintain copies of all Verified Compliance Report forms. Work to be observed shall not be covered, occupied, or used until written acceptance by all individuals identified in the table and the OSHPD field staff has been received.

A MILESTONE method for establishing observations of construction means the project is observed based upon the progress of the work. An INTERVAL method for establishing observations of construction means the project is observed based upon calendar frequency. Section D layout shall include the following:



- REFERENCE NO. (Ref. No.) – A reference number must be included for coordination with the Verified Compliance Report (see form OSH-FD-123).
- REQUIRED CONSTRUCTION OBSERVATION / MILESTONE OR INTERVAL- A complete description of the specific milestone (element or system) or interval to be observed.
- VERIFIED COMPLIANCE REPORT REQUIRED AS INDICATED / OSH-FD-123 - The specified individuals are as required by Title 24, Part One, Section 7-151. This table identifies which individuals are required to submit the OSHPD Verified Compliance Report form (OSH-FD-123) for each milestone defined by the design professional. This form replaces the discontinued Verified Report Form. The Verified Compliance Report is based upon 'personal knowledge' as defined in Section 7-151. Each box marked with an 'X', indicates that a Verified Compliance Report must be filed.
- FOR OFFICE USE ONLY / OSHPD-FDD – OSHPD field staff may at any time review the accumulated Verified Compliance Reports at the project site, against the required Reports. Field Staff will initial and date lines they verify as in compliance. Projects with Reports not submitted to the field are subject to Stop Work Orders.

NOTE: Final Verified Compliance Reports are required on all projects from all individuals identified in Title 24, Part One. At a minimum, a Final Verified Compliance Report is required from the contractor (who may be an owner/builder) and the IOR.

After completion of Section D, the last page includes a location where the Architect or Engineer in responsible charge indicates that either: 1) samples of test and inspection forms required by Section 7-141 (h) have been attached, or 2) submittal of sample reports will be provided following the determination of responsible firm(s) and or individual(s), or 3) samples are not required, because the scope of the project does not require tests or special inspections.

Prior to signing in Section E, the Architect or Engineer in responsible charge shall also indicate the time limit for the submission of required test and inspection reports to OSHPD FDD. If a time limit is not selected, all reports shall be submitted to the office within fifteen (15) calendar days.

A place is provided following Section D for the Architect or Engineer in responsible charge to indicate if additional tests or special inspections are required, and where they have been included in the TIO program.

Section E

This section provides for the signature of the Architect or Engineer in responsible charge of the project. It is this individual who is responsible for submitting the Tests, Inspection and Observation Program to OSHPD. OSHPD FDD staff will sign in this section upon plan approval and building permit approval.

- Architect or Engineer in responsible charge of the project shall sign and date the Tests, Inspection, and Observation Program submittal. Print first and last name and indicate profession license number.
- OSHPD Plan Review shall sign and date, indicating the acceptance and approval of all listed Tests, Inspections, and Observations.
- OSHPD Field Staff shall sign and date, indicating the acceptance and approval of the firms or individuals proposed to perform the tests and special inspections.