

TIO Updates and Discussion

Inspection Services Unit



HCAI Inspection Services Unit Presenters

Joe LaBrie, Supervisor and Regional Compliance Officer for ISU

- California Licensed Structural Engineer for the last 40 years with work experience focused on California healthcare facilities from multiple perspectives.

Janice Yee-Oyoung, Compliance Officer for ISU

- California Licensed Architect and a LEED Accredited Professional with over 28 years of experience in architecture with a focus on healthcare projects in California.

Hoa Tran, Compliance Officer for ISU

- Over 25 years of work experience in architecture with over 12 years on healthcare projects in varying roles, from designer to project manager.

Monica Colosi, Compliance Officer for ISU

- Master's Degree in Architecture with over 25 years of experience as a Project Manager, Director of Medical Equipment Planning & Management, and Construction Administration.

HCAI Inspection Services Unit Presenters

James Pan, District Structural Engineer for ISU

- California Licensed Structural Engineer with 25 years of experience and with OSHPD/HCAI for the last 10 years.

Chris Davis, District Structural Engineer for ISU

- California Licensed Structural Engineer with 13 years of experience with a focus on healthcare projects in California.

Bert Hurlbut

- 45 Years in hospital construction industry
- 35 Years working w/ OSHPD – HCAI
- 4 Years A/E office, 12 years as GC, 16 years as CM, 9 years as owner
- \$200M as GC, \$750M as CM, \$1.2B as owner
- Over 10 years on OSHPD/HCAI Board

Significance of the TIO Program

- Started around 2000
- Prior to 2010 there was nothing but darkness at the end of the project
- Produced my own checklist at the end of the project

Importance of the TIO Program

- TIO becomes basic requirement to obtain a building permit
- TIO must be completed and approved to obtain Certificate of Occupancy

Past Experience Prior to Excel TIO Program

- TIO cumbersome at first due to complete analog system requiring initialed sign offs
- TIO pretty tattered by the end of some projects

Importance of a Single Document Intended for Project Sign Off

- If at all possible, include input from all parties (A/E, Contractors, Owner)
- If well thought out, this will establish “Goal Posts” with little chance of moving
- Helps establish inspection budgets (IOR’s, special labs, off-site testing, special tests)

TIPS to Execute and Complete the TIO Program

- Coordinate the TIO program with project schedule
- Alert significant parties as to imminent sign offs
- Establish metrics to evaluate progress on the TIO program
- Keep track of special engineers required to sign VCR's for portions of the work
- Makes progress on the TIO programs completion visible to all stakeholders

Possible Problems

- Poor Planning
- Being unprepared during line-item sign offs
- Secrecy
- Waiting until the last minute



Scott Mackey

- Executive Director at Devenney Group, Architects
- 36 years in healthcare design industry
- 25 years working w/ OSHPD – HCAI
- 100's of projects requiring TIO forms and reporting
- AOR for dozens of healthcare projects, both inpatient & outpatient
- HCAI Hospital Building Safety Board – appointed August 2021



Significance of the TIO Program to the AOR

- Establishes standards for which work is to be constructed
- Ability to add accountability to the construction project work
- Results in verification of compliance through the course of project
- Gives ability to the IOR to track the criteria of the work



Personal Challenges of the TIO Program for the AOR

- Pulling information and criteria from multiple sources
- Cross-over of responsibilities becomes challenging to document
- Resolving disagreements between DPOR's and approval entities and inspector's experience/ preferences
- Maintains continuing inspection through the course of the project all the way to completion and Certificate of Occupancy/Substantial Compliance



Importance of the TIO Program to the Project

- TIO becomes critical requirement in obtaining the building permit
- TIO creates the standards and accountability for proper work
- TIO must be completed and approved to obtain Certificate of Occupancy
- Assures the owner that the project has met the criteria of assemblies and testing standards
- Creates a record of proper and complete project construction for the Local Authorities Having Jurisdiction/HCAI



Importance of a Single Document

- Input from all parties is critical (Architect, Engineers, Contractors, Owner, AHJ/HCAI)
- Establishes “Critical Standards” for the project and minimizes potential to change or modify during the work
- Helps create the basis for inspection budget (IOR’s, special labs, off-site testing, special tests)
- Sets the requirements for the General Contractor to follow
- Creates a final sign-off form as part of the close out documents



Possible Problems



- Poor planning
- Being unprepared during line-item sign offs
- Cutting corners
- Waiting until the last minute



Quality Control vs. Quality Assurance


Quality Control: **CONTRACTOR'S RESPONSIBILITY**

- QC is the process of measuring, examining, installing, and testing to gauge one or more characteristics of a product or service and the comparison of these with specified requirements (Approved Contract Documents) to determine conformity. Products, processes, fabrication, mnfr., and construction results can be performed to ensure and verify that the final install is correct and meets plans and specifications (pre-inspection activities, internal quality control).

Quality Assurance: **OWNER RESPONSIBILITY**

- QA compares actual installed conditions with requirements of the plans and specs and other project requirements (design compliance). These results (acceptance or failure) are reported to stakeholders.
- QA leverages the inspection process to verify compliance to the contract documents (after install). QA activity does not include QC activities listed above.

Personal Knowledge

 OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION - www.oshpd.ca.gov/fdd
2020 W. El Camino Ave., Suite 900 - Sacramento, California 95833 Phone (916) 440-8300 FAX (916) 324-0188
355 South Grand Avenue, Suite 1900, Los Angeles, CA 90071 Phone (213) 897-0168 FAX (213) 897-0168

Reset Form

Verified Compliance Report If Final Report, Place "F" in Box →

NOTE: Required at specific intervals or project milestones as indicated in the Testing, Inspection and Observation Program approved by the Office (See CCR, Title 24, Part 1, Section 7-151) **VR**

A Facility Information			
Facility #:	Facility Name:	OSHPD #:	
Street Address:		Phone:	
		Fax:	
City:	County:	Zip:	
Record Name (Project Scope):			
B Interval/Milestone: _____ Ref. No. #:			
This report includes construction work to the _____ day of _____, 20____.			
* As identified on the approved Testing, Inspection and Observation Program			
C Observed Elements of Construction and acceptance of tests/inspections for this reporting interval or project milestone:			
D Area Under Observation Compliance Statement:			
I hereby declare that, to the best of my personal knowledge*, the work performed and the materials used and installed covered by this report, are in compliance with the approved drawings and specifications and any approved Post Approval Documents/Amended Construction Documents. If applicable, a tentative list of items to be completed or corrected is given herein below or attached hereto. This list may not be all-inclusive. Failure to include an item in this list does not alter the responsibility of the Contractor/Builder to complete all of the work in accordance with the approved drawings and specifications and all applicable building codes. (*As defined in CCR, Title 24, Part 1, Section 7-151)			
E Comments and/or Exception List: (attach additional sheets if necessary)			
F Print Name: _____		Registration #: _____	
Firm Name: _____			
Address:		City:	State: Zip:
<input type="checkbox"/> AOR	<input type="checkbox"/> CIVIL	<input type="checkbox"/> Contractor/Owner-Builder	<input type="checkbox"/> EEOR
<input type="checkbox"/> IOR	<input type="checkbox"/> MEOR	<input type="checkbox"/> SEOR	<input type="checkbox"/> GEOR
Signature: _____		Date: _____	
		<input type="checkbox"/> Special Inspector	
		<input type="checkbox"/> Other: _____	

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What is meant by Reasonable Diligence to Obtain Personal Knowledge?

C	Observed Elements of Construction and acceptance of tests/inspections for this reporting interval or project milestone: <h2 style="text-align: center;">Observed Elements of Construction</h2>
D	Area Under Observation Compliance Statement: I hereby declare that, to the best of my personal knowledge*, the work performed and the materials used and installed covered by this report, are in compliance with the approved drawings and specifications and any approved Post Approval Documents/Amended Construction Documents. If applicable, a tentative list of items to be completed or corrected is given herein below or attached hereto. This list may not be all-inclusive. Failure to include an item in this list does not alter the responsibility of the Contractor/Builder to complete all of the work in accordance with the approved drawings and specifications and all applicable building codes. (*As defined in CCR, Title 24, Part 1, Section 7-151) <h2 style="text-align: center;">Reasonable Diligence to Obtain Personal Knowledge</h2>
E	Comments and/or Exception List: (attach additional sheets if necessary) <h2 style="text-align: center;">Details of Observations, Exceptions, Issues, Photos</h2>



Responsibilities

What are the Owner's responsibilities?

- 7-137 Notice of Start of Construction
- 7-139 Notify HCAI of Project Suspension of Two Weeks or more
- 7-144 7-212 Provide Inspection
- 7-149 Select an Approved Agency (Laboratory)
- 7-212 Select appropriate Inspector and receive HCAI approval for Inspector prior to construction start

Responsibilities

What are the Contractor's responsibilities?

- 7-141(I) & 7-143 Complete Work in Accordance with Approved Documents
- 7-151 Submit Verified Compliance Reports
- 7-151(d) Obtain personal knowledge

Responsibilities

What are the Designer's responsibilities?

- 7-141 Administration of the work of construction
- 7-141 Preparation and Administration of the TIO
- Approve Inspectors
- Approve Approved Agency
- 7-153 Manage & Distribute Change Log
- 7-151 Submit Verified Compliance Reports (VCRs)
- Submit / Upload VCRs to HCAI Website
- 7-153 Issue Direction to the Contractor
- Decide Material Alteration or Non-Material Alteration
- Present Project Changes to HCAI Field Staff
- Submit Comment Process Review (CPR)
- Submit Alternate Method of Compliance (AMC)

Responsibilities

What are the Inspector's responsibilities?

- 7-145 Continuous Inspection
- Identify Seeming Errors
- Maintain Approved Documents On Site
- Maintain Codes On Site
- Notify HCAI of Work Start or Suspension of 2 Weeks and more
- Complete Daily Reports
- Keep Current Change Log on Site
- Deliver Field Records to Owner at Project Completion
- Notify Contractor of Deviations from Approved Plans
- Maintain Non-Compliance Log
- 7-151 Submit Verified Compliance Reports at identified intervals or when required by HCAI

Responsibilities

What are the Approved Agency's responsibilities?

- Submit Test and Inspection Reports to Owner, IOR, and Designer
- Reports to Include Statement of Compliance or Non-Compliance
- Submit Qualifications to the Designers for Approval
- 7-151 Submit Verified Compliance Reports

Practices that Offer the Best Chance for Success

What are the fundamental duties of the inspector and how could they improve project outcomes?

- Provide continuous inspection
- Produce IOR daily reports every day
- Read plans to understand project scope
- Regularly Inspect construction in progress by walking the site
- Discuss special inspection scope with special inspectors
- Advise DPOR on Material Altering changes to project drawings
- Confirm construction matches drawings
- Report findings
- Keep field documents organized
- Clear, concise communication of findings with HCAI Field Staff and Project Team
- Not all that other stuff

Practices that Offer the Best Chance for Success

What are the designers responsible for during construction and how could they improve project outcomes?

- Keep change logs current
- Issue timely directives and responses to questions in the field
- **Communicate** project issues with HCAI Field Staff
- Use Reasonable Diligence to obtain Personal Knowledge (includes site visits and observation reports)
- Read, understand, and address results of tests and special inspection reports
- Approve the Approved Agency and Special Inspectors before work begins
- Coordinate TIO management, sign-offs and VCRs

7-141. Administration of construction.

(a) The administration of the work of construction, including the testing, inspection and observation program, shall be under the responsible charge of an architect and structural engineer. When a structural engineer is not substantially involved, the architect shall be solely responsible. Where neither structural nor architectural elements are substantially involved, a mechanical or electrical engineer registered in the branch of engineering most applicable to the project may be in responsible charge.

Practices that Offer the Best Chance for Success

What could the contractors do to improve outcomes?

- Have a Quality Control Plan in place and actively implemented on every project (big or small)
- Take directions from the designers of record only.
- Understand inspectors and laboratory reports and ask the designers for direction if needed
- Construct in accordance with the HCAI Approved Plans
- Do not build off of RFIs. Some RFIs may be materially altering
- Request clarification by designers if drawings are unclear
- **Communicate** project issues with Designers, Inspectors and HCAI Field Staff

Practices that Offer the Best Chance for Success

What could the project managers do to improve outcomes?

- Hold designers accountable to responsibly execute their duties during construction
- Limit inspector's attention to their code defined duties
- Insist on better documentation management during construction
- Engage in project details and measure performance
- Regardless of the project size, reinforce good project organization and performance during construction
- **Communicate** project issues with Designers, Inspectors and HCAI Field Staff
- **Prepare project closure documentation at the beginning of project**

TIO Management During Project

Importance of TIO management by DPOR:

- Completed Tests and Special Inspections should be presented to the HCAI field staffs for sign-off when completed. Regular maintenance to the TIO program has many benefits:
 - Timely clearances granted by HCAI field staff.
 - Less pressure on the project team to provide all completed inspection reports at the end of the project to the HCAI field staff.

HCAI Office Staff and the TIO

What are the HCAI Office Staff responsibilities, prior to construction?

- Review the list of tests and inspections identified by the DPOR for accuracy and completeness and provide comments, if necessary, prior to Plan Approval.
- Verify the DPOR has signed all locations on the TIO form.
- Add “reviewed” stamp when all comments have been addressed. Office staff does not “approve” the TIO.

California Health and Human Services Agency
Gavin Newsom, Governor

HCAI Department of Health Care Access and Information
hcai.ca.gov

2020 West El Camino Avenue, Suite 800 Sacramento, CA 95833

355 South Grand Avenue, Suite 1900 Los Angeles, CA 90071

Testing, Inspection, and Observation Program
2019 California Building Standards Code - OSHPD 1

SECTION H		HCAI REVIEWED	
Facility #:	Facility Name:	Project #:	
NOTE: When a structural engineer has been delegated responsibility for a portion of this project his or her signature is also required.			
Submitted By:			
I have reviewed the approved construction documents for this project and all tests and special inspections required by Code are marked as "required" on this form.			
Architect/Engineer of Record (Print Name)		Architect/Engineer of Record (Signature)	Date
Structural Engineer of Record (Print Name)		Structural Engineer of Record (Signature)	Date
FOR HCAI USE			
TIO Program Reviewed by HCAI Plan Review Staff:			
<div style="border: 1px solid black; border-radius: 15px; background-color: #4a86e8; color: white; padding: 20px; width: fit-content; margin: 0 auto;"><p style="text-align: center; margin: 0;">Section H Office Review Occurs during plan review process</p></div>			
Note: confi const			to the

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HCAI Field Staff and the TIO

What are the HCAI Field Staff responsibilities?

- Verify TIO form signed by the DPOR in all locations.
- Verify that Agency(ies)/Individual(s) listed are approved.
- Verify that the OPAA Matrix is provided.
- Verify that sample reports were submitted.
- Verify that the Notice to Start Construction (NSC) form was submitted.
- Approve the TIO during field plan review.
- Verify changes have deltas and a summary of the changes was included in Section J.

California Health and Human Services Agency
HCAI Department of Health Care Access and Information
 hcai.ca.gov

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Testing, Inspection, and Observation Program
 2019 California Building Standards Code - OSHPD 1

SECTION I	TIO PROGRAM APPROVAL	
Facility #:	Facility Name:	Project #:
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, acute psychiatric hospitals, and general acute care hospitals providing only acute medical rehabilitation center services (2019 CBC 1224.1).		
Samples of Test and Inspection Reports are NOT required for tests performed by laboratories approved through OPAA Program		
All test and special inspection reports shall be submitted to the ROR, hospital owner, architect in responsible charge, and the structural engineer by the testing agency per CAC 7-149(a).		
Verified compliance reports shall be signed by the individual who performed the special inspection(s) as outlined in CAC 7-151 (c). All reports shall clearly state whether the tests or special inspections were performed in accordance with the HCAI stamped approved documents and whether the results indicate compliance with those documents per CAC 7-149 (a). All RORs performing special inspections shall hold the appropriate certification and equipment, and shall obtain approval from the design professional of record and HCAI prior to performing such work.		
NOTE: This Test, Inspection, and Observation Report shall be approved by HCAI field personnel prior to start of construction.		
Architect/Engineer of Record (Print Name)	Professional License #	Architect/Engineer of Record (Signature) Date
FOR HCAI FIELD STAFF USE		
TIO Program Approved by HCAI Field Staff:		
<div style="border: 2px solid blue; border-radius: 20px; padding: 20px; background-color: #4a86e8; color: white; font-weight: bold; font-size: 1.2em;"> Section I Field Approval Needed prior to start construction </div>		
Note: HCAI confirm the construction If "Approve the related		

Observations by the Design Professional

- "O" of the TIO is the Observation Program
- Per CAC Section 7-141(h)
- Per CAC Section 7-151 refers to the H&SC Section 129830 which defines "Personal Knowledge"
- Personal Knowledge as applies to the design professional is "obtained by periodic visits to the project site of reasonable frequency".
- Having the Project Completion Row checked in Section F of the TIO Form may not fulfill the requirements of the Observation Program
- Signing the VCR(s) without conducting any field visit is a violation of the CAC 7-141(h), CAC 7-151 and the H&SC 129830 (the Law)!

Key Take Aways of the TIO Program

- **Download the latest** TIO through the HCAI web site
- **DPOR is responsible for developing, managing and updating the TIO.** It's a LIVING DOCUMENT constantly evolving like construction.
- **HCAI is observing** that the project/construction team and construction is following the approved construction documents.
- **Any deviation/changes** are either ACD (Amended Construction Document) or NMA (Non-Material Alteration reference CAN 1-7-153). **All changes must be clouded with deltas. Any Changes may require TIO to be updated.** Changes in the TIO program are summarized in Section J.
- **CONSTRUCTION START:** Field approval of TIO, Provide sample test report(s), submit NSC Form (Notice to Start Construction), and IOR NSC. Also reference CAC 7-145
- **Complete sign off** during stages, milestones and intervals of construction. Milestones and Interval need to submit Verified Compliance Report(s) [VCRs]. Upload the latest documents into eSP
- **Construction Final/Project Closure:** Upload appropriate final documents in eSP virtual folder "90-Closure Documents" or this project will be subject to closure in non-compliance.

TIO Spreadsheet Updates

Motivation

- Missed/postponed tests and inspections at end of project
- Difficult to make revisions with current TIO form

SECTION B		NOTE: Approved agencies, individuals, and all changes to the TIO program shall be identified, evaluated by the DPOR and approved by HCAI prior to proceeding with the related work.					
Facility #:		Facility Name:		Project #:			
		Select with "X" or required information:					
Index #	REQUIRED (Select with "X")	TESTS	Samples of test & inspection reports included	OPAA No. and Expiration Date	RESPONSIBLE APPROVED AGENCY AND/OR INDIVIDUAL	COMPLIANCE VERIFICATION BY IOR (Initial/Date)	HCAI/FDD USE (Initial/Date)
STRUCTURAL TESTS							
Foundation							
B-F1		Soil fill CBC 1705A.6 Fill material acceptance test					
B-F2		Soil fill CBC 1705A.6 Compaction test					
B-F3		Soil and rock anchors CBC 1811A Load test					
B-F4		Deep foundation elements CBC 1810A.3.3.1.2, 1810A.3.1.5.1, 1810A.3.3.1.5, 1810A.3.3.2, & 1810A.3.10.4 Load test					
B-F5		Shoring CBC 1812A Tie-Back Anchors					
B-F6		Vibro Stone Columns (VSC) CBC 1813A Acceptance Test					
B-F7							
B-F8							
Concrete							
B-C1		Concrete CBC 1705A.3, 1903A.6 & 1910A.1; ACI-318 1.9.1 & 26.4 Cementitious materials					
B-C2		Concrete CBC 1705A.3, 1903A.5; ACI-318 1.9.1 & 26.4 Aggregates/Reactive aggregates					
B-C3		Concrete CBC 1705A.3, ACI-318 26.4.1.3, ASTM C1602 Water					
B-C4		Concrete CBC 1705A.3 & 1905A.1.15; ACI-318 26.12 Strength test					
		Concrete					

TIO Stages

- Stages, as related to the TIO program, are defined by the DPOR to identify the specific tests and inspections required for a portion of the project work.

Excerpt from 2019 CAC:

7-151 Verified Compliance Reports

(a) In accordance with Section 7-151 (e), or when required by the Office, the architect(s), engineers(s), inspector(s) of record, special inspector(s) and contractor or owner/builder shall each submit to the Office a verified compliance report, with their signature and based on their own personal knowledge, as defined by this section. The report shall:

1. Verify that the work during the period, or a portion of the work, covered by the report has been performed and materials used and installed are in accordance with the construction documents.
2. Set forth detailed statements of fact as are required by the Office.

(b) The term "personal knowledge," as used in this section and as applied to the licensed architect or engineer or both, means personal knowledge that is obtained by periodic visits to the project site, of reasonable frequency, for the purpose of general observation of the work. It also includes knowledge that is obtained from the reporting of others as to the progress of the work, testing of materials, and inspection and supervision of the work that is performed between the periodic visits of the architect or the engineer. Reasonable diligence shall be exercised in obtaining the facts.

(c) The term "personal knowledge," as applied to the inspector, means the actual personal knowledge that is obtained from the inspector's personal continuous inspection of the work of construction, in all stages of its progress at the site where the inspector is responsible for inspection. Where work is carried out away from the site, personal knowledge is obtained from the reporting of others on the testing or inspection of materials and workmanship, for compliance with plans, specifications or applicable standards. Reasonable diligence shall be exercised in obtaining the facts.

(d) The term "personal knowledge," as applied to the contractor, means the personal knowledge that is obtained from the construction of the building. Reasonable diligence is required to obtain the facts.

(e) Verified compliance reports shall be submitted to the Office at the intervals or **stages** of the work **as stated in the approved testing, inspection and observation program**. In no case shall the submittal of verified compliance reports be less than:

1. One copy prepared and signed by each required participant or discipline at the completion of the work.
2. One copy prepared and signed by any participant or discipline at any time a special verified compliance report is required by the Office.

User Defined Stages in New TIO Spreadsheet

Testing, Inspection, and Observation Program
2019 California Building Standards Code OSHPD 1

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, acute psychiatric hospitals, and general acute care hospitals providing only acute medical rehabilitation center services (2019 CBC 1224.1).

SECTION A		PROJECT INFORMATION	
Facility #:	Facility Name:	Project #:	Sub #:
10943	Stanford Health Care (10943)	ISU_TIO_Plan	
Street Address:	300 Pasteur Dr		
City:	Palo Alto	County:	Santa Clara
Record Name (Scope of Project):	ISU Remodel		
Abbreviations:			
CAC: California Administrative Code	AAMA: American Architectural Manufacturers Association		
CBC: California Building Code	NFPA: National Fire Protection Association		
CEC: California Electrical Code	FM: FM Approval Standards		
CMC: California Mechanical Code	DPOR: Design Professional of Record		
CPC: California Plumbing Code	Version: R04.18		
Testing, Inspection, and Observation Stages			
Stage No.	Stage Name	Stage Scope / Description	
1	Area A Foundation	Foundation Construction for Area A	
2	Area B-D Foundation	Foundation Construction for Areas B through D	
3	Level 2-4 Structural Steel	Structural Steel Construction for Levels 2 through 4	
4	Level 5 - Roof Structural Steel	Structural Steel Construction for Levels 5 through Roof	

- Compile & Print PDF
- Clear Stage and TIO Data
- View General Instructions
- View Tab Instructions

4 Stages

DPOR Selects Number of Stages



Page 1

Test and Inspection Tabs Automatically Update

Column Added for Each Stage

SECTION B					NOTE: Approved agencies, individuals, and all changes to the TIO program shall be identified, evaluated by the DPOR and approved by HCAI prior to proceeding with the related work.				
Facility #:		Facility Name:		Project #:			Sub #:		
10943		Stanford Health Care		ISU_TIO_Plan					
TESTS					Select with "X" or provide required OPAA information:				
Index #	Stage 1 Required (Select with "X")	Stage 2 Required (Select with "X")	Stage 3 Required (Select with "X")	Stage 4 Required (Select with "X")	Samples of Test & Inspection Reports Included	OPAA No. and Expiration Date	Responsible Approved Agency And/Or Individual	Compliance Verification by IOR (Initial/Date)	HCAI/FDD Use (Initial/Date)
STRUCTURAL TESTS									
Foundation									
B-F1	X	X	X	X	Soil fill CBC 1705A.6 Fill material acceptance test				
B-F2	X			X	Soil fill CBC 1705A.6 Compaction test				
B-F3					Soil and rock anchors CBC 1811A Load test Deep foundation elements				

HIDE rows - Section B

SHOW rows - Section B

View Tab Instructions

Test and Inspection PDF Output



Testing, Inspection, and Observation Program 2019 California Building Standards Code - OSHPD 1

When printed, Test and Inspection sections are created for each TIO Stage



SECTION B		NOTE: Approved agencies, individuals, and all changes to the TIO program shall be identified, evaluated by the DPOR and approved by HCAI prior to proceeding with the related work.					
Facility #:	Facility Name:	Project #:			Sub #:		
10943	Stanford Health Care	ISU_TIO_Plan					
Stage 1: Area A Foundation		Select with "X" or provide required OFAA information:					
Index #	Stage 1 Required (Select with "X")	TESTS	Samples of Test & Inspection Reports Included	OPAA No. and Expiration Date	Responsible Approved Agency And/Or Individual	Compliance Verification by IOR (Initial/Date)	HCAI/FDD Use (Initial/Date)
STRUCTURAL TESTS							
Concrete							
B-C1	X	Concrete CBC 1705A.3, 1903A.6 & 1910A.1; ACI-318 1.9.1 & 26.4 Cementitious materials					
B-C2	X	Concrete CBC 1705A.3, 1903A.5; ACI-318 1.9.1 & 26.4 Aggregates/Reactive aggregates					
B-C3	X	Concrete					
B-E6	X	Essential Electrical System Coordination Study CEC 517.31(G) & 700.32					
MECHANICAL TESTS							
B-ME7	X	Hydronics CMC 1205.2, 1220.2.6 & 1221.3 Pressure test of steam and water piping					
B-ME8	X	Process piping CMC 1405.2.2 Pressure test					



Page numbers updated for each stage

Construction Verification and Stages

- A stage should not be confused with a milestone. A milestone requires Verified Compliance Reports to be submitted, a stage does not. A stage can be a single milestone or can contain multiple milestones. It is up to the DPOR to decide how to structure the TIO program to best suit the project.

SECTION F		CONSTRUCTION VERIFICATION										
Facility #:	Facility Name:								Project #:			
12430	Kaiser Foundation Hospital - San Francisco								ISU_TIO_Plan			
VERIFIED CONSTRUCTION INSPECTION AND OBSERVATION REPORTING											HCAI/FDD USE	
REFERENCE NUMBER	PROJECT STAGE(S), MILESTONE, OR INTERVAL (Clearly indicate which Stage(s) apply to which Milestone/Interval)	VERIFIED COMPLIANCE REPORT REQUIRED AS INDICATED (Form OSH-FD-123) (See "PERSONAL KNOWLEDGE" as defined in California Administrative Code, Section 7-151)										
		GEOR	AOR	SEOR	MEOR	EEOR	CONT	IOR	SP INSP	TEST LAB		
A	Clear all plan review Outstanding Items List (OIL) Items from Original Review			X				X	X	X	X	
B	Stage 1 Foundation Area A	X		X				X	X	X	X	
C	Stage 1: Foundation Area B	X		X				X	X	X	X	
D	Construction 50% Complete		X	X	X	X		X	X	X	X	
E	Stage 2: Structural Steel			X				X	X	X	X	
F	Construction Final		X	X	X	X		X	X	X	X	

Changes During Construction

2019 California Building Standards Code CSHPD 1

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, acute psychiatric hospitals, and general acute care hospitals providing only acute medical rehabilitation center services (2019 CBC 1224.1).

SECTION A		PROJECT INFORMATION	
Facility #:	Facility Name:	Project #:	Sub #:
10943	Stanford Health Care (10943)	ISU_TIO_Plan	
Street Address:	300 Pasteur Dr		
City:	Palo Alto	County:	Santa Clara
Record Name (Scope of Project):	ISU Remodel		
Abbreviations:			
CAC: California Administrative Code	AAMA: American Architectural Manufacturers Association		
CBC: California Building Code	NFPA: National Fire Protection Association		
CEC: California Electrical Code	FM: FM Approval Standards		
CMC: California Mechanical Code	DPOR: Design Professional of Record		
CPC: California Plumbing Code	Version: R04.18		
Testing, Inspection, and Observation Stages			
Stage No.	Stage Name	Stage Scope / Description	
1	Area A Foundation	Foundation Construction for Area A	
2	Area B-D Foundation	Foundation Construction for Areas B through D	
3	Level 2-4 Structural Steel	Structural Steel Construction for Levels 2 through 4	
4	Level 5 - Roof Structural Steel	Structural Steel Construction for Levels 5 through Roof	
5	Revision 1	Added Off-Site Shop Welding Inspection	

Replace TIO cover page with revised cover page with new Stage for the revision.

SECTION J		SUMMARY OF CHANGES TO THE TIO PROGRAM			
NOTE: Note all changes shall be approved as amended construction documents per CAC 7-153, or "concurrent with" as non-material alterations per CAC 7-153(b), by HCAI prior to proceeding with the related work.					
Facility #:	Facility Name:	Project #:	Sub #:		
10943	Stanford Health Care	ISU_TIO_Plan			
TESTING, INSPECTION, AND OBSERVATION PROGRAM NON-MATERIALLY ALTERING CHANGES BY THE ARCHITECT OF RECORD / ENGINEER OF RECORD IN RESPONSIBLE CHARGE					
A signature below indicates that the DPOR has verified the acceptance statements in Section G of this Form are applicable to any approved agencies/testing laboratories and special inspectors added.					HCAI FDD CONCURRENCE (Initial/date)
REVISION NUMBER	SYNOPSIS OF CHANGE	Architect/Engineer of Record Signature (Initial/date)	Structural Engineer of Record Signature (Initial/date)	DATE of Effective Change	
1	Added Off-Site Shop Welding Inspection	AOR / 4/19/22	SEOR / 4/19/22	4/19/2022	ISU / 4/19/22

Write-in revision information in Section J of printed TIO.

Note: Add a delta next to all changes and list all changes in Section J. Clouds are not necessary as long as it is clear what was changed.

Changes During Construction

Testing, Inspection, and Observation Program 2019 California Building Standards Code - OSHPD 1

Add new sheets for Stage 5 Off-Site Inspections in printed TIO.



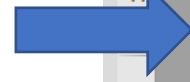
SECTION D		NOTE: Approved agencies, individuals, and all changes to the TIO program shall be identified, evaluated by the DPOR and approved by HCAI prior to proceeding with the related work.					
Facility #:	Facility Name:	Project #:				Sub #:	
10943	Stanford Health Care	ISU_TIO_Plan					
Stage 5: Revision 1		Select with "X" or provide required OPAA information:					
Index #	Stage 5 Required (Select with "X")	OFF-SITE SPECIAL INSPECTIONS	Samples of test & inspection reports included	OPAA No. and Expiration Date	RESPONSIBLE APPROVED AGENCY AND/OR INDIVIDUAL (IDENTIFY SPECIAL INSPECTOR)	COMPLIANCE VERIFICATION BY IOR (Initial/Date)	HCAI/FDD USE (Initial/Date)
STRUCTURAL SPECIAL INSPECTIONS							
Steel							
D-S3	X	Steel CBC 1705A.2.5 & 1705A.12.1 Shop welding					
D-S4	X	Steel AWS D1.1 3 & 4 and AWS D1.8 6.1 Shop and field welding - WPS / WPQR					

No signatures need to be reproduced when updating the TIO via this method

Other Enhancements:

User Enhancement:

Dynamically search for facilities.
Facility information is automatically populated



Testing, Inspection, and Observation Program
2019 California Building Standards Code OSHPD 1

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, acute psychiatric hospitals, and general acute care hospitals providing only acute medical rehabilitation center services (2019 CBC 1224.1).

SECTION A		PROJECT INFORMATION	
Facility #:	Facility Name:	Project #:	Sub #:
#N/A	San F	ISU_TIO_Plan	
Street Address:	Kaiser Foundation Hospital - San Francisco (12430)		
City:	Kaiser Foundation Hospital - South San Francisco (13086)		
Record Name:	Kentfield Hospital San Francisco (18227)		
Abbreviations:	Kindred Hospital - San Francisco Bay Area (11321)		
CAC: California A	Priscilla Chan And Mark Zuckerberg San Francisco General Hospital /		
CBC: California Building Code	San Francisco Health Care (22750)		
CEC: California Electrical Code	San Francisco Post Acute (22408)		
CMC: California Mechanical Code	San Francisco Towers (25017)		
CPC: California Plumbing Code	San Francisco Towers (25017) ciation		
	NFPA: National Fire Protection Association		
	FM: FM Approval Standards		
	DPOR: Design Professional of Record	Version: R04.18	

Testing, Inspection, and Observation Stages

5 Stages

Compile &
Clear Stage a
View General
View Tab In



Other Enhancements:

Testing, Inspection, and Observation Program 2019 California Building Standards Code OSHPD 1

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, acute psychiatric hospitals, and general acute care hospitals providing only acute medical rehabilitation center services (2019 CBC 1224.1).

SECTION A		PROJECT INFORMATION	
Facility #:	Facility Name:	Project #:	Sub #:
12430	Kaiser Foundation Hospital - San Francisco (12430)	ISU_TIO_Plan	
Street Address:	2425 Geary Blvd.		
City:	San Francisco	County:	San Francisco
Record Name (Scope of Project):	ISU Remodel		
Abbreviations:			
CAC: California Administrative Code	AAMA: American Architectural Manufacturers Association		
CBC: California Building Code	NFPA: National Fire Protection Association		
CEC: California Electrical Code	FM: FM Approval Standards		
CMC: California Mechanical Code	DPOR: Design Professional of Record		
CPC: California Plumbing Code	Version: R04.18		

Compile & Print PDF

Clear Stage and TIO Data

View General Instructions

View Tab Instructions

User Enhancement:

Instructions can now be accessed via a button on **each** tab. Clicking this button opens a PDF with instructions for the **current** section.

Other Enhancements:

Testing, Inspection, and Observation Program 2019 California Building Standards Code - OSHPD 1

SECTION D		NOTE: Approved agencies, individuals, and all changes to the TIO program shall be identified, evaluated by the DPOR and approved by HCAI prior to proceeding with the related work.					
Facility #:	Facility Name:	Project #:		Sub #:			
10943	Stanford Health Care	ISU_TIO_Plan					
Stage 4: Level 5 - Roof Structural Steel		Select with "X" or provide required OPAA information:					
Index #	Stage 4 Required (Select with "X")	OFF-SITE SPECIAL INSPECTIONS	Samples of test & inspection reports included	OPAA No. and Expiration Date	RESPONSIBLE APPROVED AGENCY AND/OR INDIVIDUAL (IDENTIFY SPECIAL INSPECTOR)	COMPLIANCE VERIFICATION BY IOR (Initial/Date)	HCAI/FDD USE (Initial/Date)
No Requirements for this Section of the TIO							



TIO Enhancement:

If a stage does not contain any tests and/or inspections, a sheet is still generated notifying the user (i.e. DPOR, IOR, etc) that there are no selected tests and/or inspections for that particular TIO stage.

Live Demonstration



Questions?