BUILDING ENERGY ANALYSIS REPORT

PROJECT:

Nonresidential Prescriptive Sample

Project Designer:

Jon Doe Design 123 Easy St. San Diego, CA 92000 858-123-4567

Report Prepared by:

David Hensel, PE Hensel Consulting Engineers, Inc. 5857 Owens Ave., 3rd Floor Carlsbad, CA 92008 (619) 665-3259



Job Number:

19441

Date:

12/28/2019

The EnergyPro computer program has been used to perform the calculations summarized in this compliance report. This program has approval and is authorized by the California Energy Commission for use with both the Residential and Nonresidential 2019 Building Energy Efficiency Standards.

This program developed by EnergySoft Software - www.energysoft.com.

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Envelope Component Approach

NRCC-ENV-E

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE									NRCC-ENV-E
	e compliance with mandatory requirements								
	ilso used to demonstrate compliance with pre r, door, fenestration and daylighting requiren			men	ts in <u>§140.3</u> for ne	ewly c	constructed buildi	ngs, an	d <u>§141.0</u> for additions and
Project Name:			Nails TI Repor	rt Pag	e:				(Page 1 of 5)
Project Address:			Date I	Prepa	red:				12/28/2019
A. GENERAL INFORMATION	Community	05	lu of Charling	(11-1	itable Abaus Core	1-1		_	
01 Project Location (city)	Sunnvale 94086				bitable Above Grad	ie)		-	1
02 Zipcode					ed Floor Area (ft ²)	21		_	1676
03 Climate Zone		07	Total Uncor	nditic	oned Floor Area (ft	2)			0
constitutes >= 80% of the condition	:: (select all that apply): If one occupancy tioned floor area, the entire building imply with the provisions of that occupancy	08			udes unconditione : least 15 ft. ¹	ed en	closed space(s) >	5,000 f	ft ² under a roof with a ceiling
All Nonresidential, including Rel Building certified for use in one A / B / E / F / H / M / S / U							Rise Residential bancy: R-2 / R-3		Hotel/Motel Guest Rooms Occupancy: R-1
	00 ft ² directly under roof with ceiling height > h <u>§140.3(c)</u> is documented in Table L. This is t								
B. PROJECT SCOPE									
This table specifies project envelope <u>§141.0(b)1</u> and 2 for additions and c	components within the permit application de alterations.	mon.	strating con	npliar	nce using the prese	criptiv	ve paths outlined	in <u>§14(</u>	0.3, and <u>§141.0(a)1</u> and
My projec	t consists of (check all that apply)						Componen	t Type	S
	01						02		
New Construction or Newly Con					Roof		Walls		Exterior Doors
	aces > 5,000 ft ² directly under roof with ceilir	ng he	eight > 15ft				Floors		Fenestration/ Glazing Doors ¹
Addition of conditioned space					Roof		Walls		Exterior Doors
\Box One or more enclosed spaces > 5,000 ft ² directly under roof with ceiling height > 15ft					11001		Floors		Fenestration/ Glazing Doors ¹
Alteration of conditioned space					Roof Assembly		Walls		Exterior Doors NA. for Alts.
One or more enclosed space and lighting system installe	tes > 5,000 ft ² directly under roof with ceiling d for the first time	heig	ght > 15ft		Roofing Material		Floors		Fenestration/ Glazing Doors
¹ FOOTNOTE: Doors that are more the	an one-half glass in area are considered Glaze	ed Do	oors and sho	ould Ł	e documented on	table	e K with fenestrati	on.	

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C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through L. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see the applicable table referenced below.

Opaque Envelope Components						Daylighting Spaces >	Compliance Results
Roof Assembly	Roofing Materials	Walls	Floors	Doors	Fenestration	5,000ft ²	compliance Results
01	02	03	04	05	06	07	08
(See Table F)	(See Table G)	(See Table H)	(See Table I)	(See Table J)	(See Table K)	(See Table L)	COMPLIES
		Yes			Yes		CONFLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. ROOF ASSEMBLY SCHEDULE

This section does not apply to this project.

G. RATED ROOFING MATERIAL (COOL ROOF)

This section does not apply to this project.

H. WALL ASSEMBLY SCHEDULE

This table demonstrates compliance with prescriptive wall assem	and <u>\$140.3(a)2</u> and <u>\$140.3(a)3</u> for new constructions or additions, or mandatory wall assembly	
requirements in <u>§141.0(b)1B</u> for alterations.		

01 Indicate wall types included in the project: ¹	Framed	Mass (new only) Concrete Sandwich Panel (new only)		ICF (new only)
or indicate wait types included in the project.	Metal Panels	Metal Building Spandrel/ Curtain Wall	Straw Bale	Log Home (new only)

¹ FOOTNOTES: Wall types indicated above as "(new only)" do not have Title 24, Part 6 requirements for alterations. New construction and additions do have requirements and should be clicked above and compliance demonstrated within this table.

Framed Walls

01

Calculate Area-Weighted Average U-factor for Metal Framed Walls¹

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CALIFORNIA ENERGY COMMISSION

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H. WALL ASSEN											
02		Include Wo	od Framed Walls in A	Area-Weighted Avera	ge U-factor Calo	culation ¹					
03	04	05	06	07	08	09	10	11	12		13
Tag/Plan Detail ID	Occupancy & Status	How Design U-factor was determined	Location	Frame Material, Spacing & Depth	Cavity Insulation per Design	Continuous Insulation per Design	Thermal Performance Unit	Required Thermal Performance	U-factor per	^r Design	Net Area ³ ft ²
Front Wall	Nonresidential/ Relocatable 1 CZ: New	JA4 Tables	Exterior wall	Wood 1/2" gyp 16" OC		0.0	U-factor	0.11	per JA4 per Software/ Other	0.074	950
wall types. Wood		e combined w	ith SIPS, spandrel &	es may show complia curtain, metal panel							
² If "R-value" is s	hown in cell 10 a	s the Thermal	Performance Unit, tl	he R-value shown hei	re is for cavity in	sulation per <u>§14</u> 1	<u>1.0(b)1B</u> .				
³ Wall area minu	is any fenestratio	n area									
This section doe	s not apply to this	s project.									
This section doe	s not apply to this	s project.									
I. FLOOR ASSEM		1									
This section does	s not apply to this	s project.									
J. EXTERIOR DOOR SCHEDULE											
This section does not apply to this project.											
FENESTRATION	AND GLAZED	DOOR SCHED	ULE								
This section does not apply to this project.											

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Envelope Component Approach

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CERTIFICATE OF COMPLIANCE				
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L. DAYLIGHT IN LARGE ENCLOSED SPACES

This section does not apply to this project.

M. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

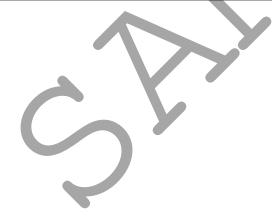
Additional Re	Selections have been made based on information provided in this document. If any selection have been changed by the permit applicant, an explanation should be included in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/							
Yes	No	Form/Title	Field In	spector				
ies	NO	romy nec	Pass	Fail				
	\bigcirc	NRCI-ENV-01-E - Must be submitted for all buildings						

N. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, form user must provide an explanation in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at

https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/. Indivudals who perform the field testing and verification work, and provide the information required for completion of the fenestration Certificate of Acceptance documentation are not required to be licensed professionals. However, the person who signs the Certificate of Acceptance document to certify compliance with the acceptance requirements shall be licensed as specified in Standards Section 10-103(a)4 and NA7.3.1

Yes	No	Form/Title	Field Inspector		
165		ronny file	Pass	Fail	
	\bigcirc	NRCA-ENV-02-F must be submitted for all new, added or altered fenestration.			



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CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

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CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			
Project Name:	Namaste Nails TI Repo	port Page:	(Page 5 of 5)
Project Address:	Date	ate Prepared:	12/28/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
Documentation Author Name: David Hensel, PE	Documentation Author Signature:
Company: Hensel Consulting Engineers, Inc.	Signature Date:
Address: 5857 Owens Ave., 3rd Floor	CEA/ HERS Certification Identification (if applicable): M32901
City/State/Zip: Carlsbad CA 92008	Phone: (619) 665-3259
 of Title 24, Part 1 and Part 6 of the California Code of Regulations. The building design features or system design features identified on this Certificate of Compliance are plans and specifications submitted to the enforcement agency for approval with this building permit a 	es for the building design or system design identified on this Certificate of Compliance conform to the requirements consistent with the information provided on other applicable compliance documents, worksheets, calculations, pplication. In the building permit(s) issued for the building, and made available to the enforcement agency for all applicable
Responsible Designer Name: Jon Doe, AIA	Responsible Designer Signature:
Company: Jon Doe Design	Date Signed: 2019-12-28
Address: 123 Easy St.	License: 123456
City/State/Zip: San Diego CA 92000	Phone: 858-123-4567

Registration Number:

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Indoor Lighting

NRCC-LTI-E

CALIFORNIA ENERGY COMMISSION

NRCC-LTI-E

CERTIFICATE OF COMPLIANCE

This document is used to demonstrate compliance with requirements in <u>§110.9</u>, <u>§110.12(c)</u>, <u>§130.0</u>, <u>§130.1</u>, <u>§140.6</u> and <u>§141.0(b)2</u> for indoor lighting scopes using the prescriptive path.

Project Name: Namaste N	Vails TI Report Page:	(Page 1 of 9)
Project Address:	Date Prepared:	12/28/2019

A. GENERAL INFORMATION

01	Project Location (city)	Sunnvale		04	Total Conditioned Floor Area (ft ²)		1,676					
02	2 Climate Zone	4		05	Total Unconditioned Floor Area (ft ²)		0					
03	3 Occupancy Types Within Project (selec	t all that apply):	06	# of Stories (Habitable Above Grade)		1						
\square	Office	🛛 Retail	🛛 Warehouse		Hotel/Motel		School	\boxtimes	Support Areas			
	Parking Garage	☐ High-Rise Residential	Relocatable		Healthcare	\boxtimes	Other (Write in)					

B. PROJECT SCOPE

This table includes any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in $\frac{\$140.6}{\$141.0(b)2}$ for alterations.

Scope of Work	Conditioned Space	Unconditioned Spaces		
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (ft²)	Calculation Method	Area (ft ²)
New Lighting System	Area Category Method	1676	Area Category Method	0
New Lighting System - Parking Garage				
Altered Lighting System				
Total Area of Work (ft ²)	1676		0	



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Indoor Lighting

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CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
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C. COMPLIANCE RE	. COMPLIANCE RESULTS												
If any cell on this tabl	f any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.												
	Allowed Lighting Power per <u>§140.6(b)</u> (Watts)							Adjusted Ligi	nting Power per	<u>§14</u>	0.6(a) (Watts)	0	Compliance Results
Lighting in	01	02	03	04		05		06	07		08		09
conditioned and unconditioned spaces must not be combined for compliance per <u>§140.6(b)1</u>	Complete Building <u>§140.6(c)1</u>	Area Category <u>§140.6(c)2</u>	Area Category Additional <u>§140.6(c)2G</u> (+)	Tailored <u>§140.6(c)3</u> (+)	=	Total Allowed (Watts)	N	Total Designed (Watts)	Adjustments PAF Lighting Control Credits <u>§140.6(a)2</u> (-)		Total Adjusted (Watts) *Includes Adjustments		05 must be >= 08 <u>§140.6</u>
	(See Table I)	(See Table I)	(See Table J)	(See Table K)				(See Table F)	(See Table P)				
Conditioned	0	1,328.85	0	0	=	1328.85	≥	1,213	0	=	1213		COMPLIES
Unconditioned	0	0	0	0	=		≥	0	0	=			
			·					Controls C	ompliance (See	Tab	le H for Details)		COMPLIES
						Rated F	owe	er Reduction C	ompliance (See	Tab	le Q for Details)		

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. INDOOR LIGHTING FIXTURE SCHEDULE

This table includes all permanent designed lighting and all portable lighting in offices.

Designed Wattage: Conditioned Spaces

01	02	03	04	05 06		07	08	09	10	
Name or Item	Aperture &			Watts per How is Wattage To		Total Number	Exempt per	Design Watts	Field Inspector	
Тад	Description	(Track) Fixture	Color Change ¹	luminaire ²	luminaire ² determined		<u>§140.6(a)3</u>	Design Watts	Pass	Fail
A	Fixture A	No	No	18	Mfr. Spec ¹	17	No	306		
В	Fixture B	No	No	35	Mfr. Spec ¹	4	No	140		

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F. INDOOR LIC	INDOOR LIGHTING FIXTURE SCHEDULE										
D	Fixture D	No	No	100	Mfr. Spec ¹	4	No	400			
E	Fixture E	No	No	7	Mfr. Spec ¹	2	No	14			
F	Fixture F	No	No	16	Mfr. Spec ¹	2	No	32			
G (4')	Fixture G (4')	Yes	No	50	Mfr. Spec ¹	1	No	50			
G (6')	Fixture G (6')	Yes	No	75	Mfr. Spec ¹	1	No	75			
G (8')	Fixture G (8')	Yes	No	100	Mfr. Spec ¹	1	No	100			
Н	Fixture H	No	No	32	Mfr. Spec ¹	3	No	96			
					Total Design	ed Watts: CON	DITIONED SPACES	1,213			

¹FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per <u>§140.6(a)4B</u> is adjusted to be 75% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.

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G. MODULA	AR LIGHTING SYSTEMS									
This table cal	culates wattage for modular lighting	g sys	tems/ track lighting fixtu	res	indicated on Table F and tro	nsfe	ers wattage to Table F.			
01	02					03				04
Name or Item Tag	Complete Track Description		Calculation Method per \$130 ()(c)6							Track Wattage
G (4')	Fixture G (4')		i Installed Luminaires vs Default 30 W/ft		ii Current Limiter		iii Overcurrent Protection Panel		iv Power supplied by driver, power supply or transformer ¹	
	VA of current limiter 200-								20045080	
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		20	045	0800					0
G (4')	Fixture G (4')		i Installed Luminaires vs Default 30 W/ft		ii Current Limiter		iii Overcurrent Protection Panel		iv Power supplied by driver, power supply or transformer ¹	
			VA of c	urre	ent limiter					20045080
			20	045	0800					0
G (4')	Fixture G (4')		i Installed Luminaires vs Default 30 W/ft		ii Current Limiter		iii Overcurrent Protection Panel		iv Power supplied by driver, power supply or transformer ¹	
			VA of c	urre	ent limiter					20045080
			20	045	0800					0

¹FOOTNOTE: For power-over-Ethernet lighting systems, power provided to installed non-lighting devices may be subtracted from the total power rating of the power-over-Ethernet system..

#### H. INDOOR LIGHTING CONTROLS (Not including PAFs)

This table includes lighting controls for conditioned and unconditioned spaces. When an control having a * is shown, the notes section of this table provides more detail on how compliance is achieved. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank.

Building Level Controls				
01	02	03		
Mandatory Demand Response <u>§110.12(c)</u>	Shut-off controls §130.1(c)	Field Inspector		
		Pass	Fail	

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STATE OF CALIFORNIA			
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Not Required 10,000 SF				See Area/Space	e Level Contro	ols			
ea Level Controls			•						<u> </u>
04	05	06	07	08	09	10	11	1	.2
Area Description	Complete Building or Area Category Primary Function Area	Area Controls <u>§130.1(a)</u>	Multi-Level Controls <u>§130.1(b)</u>	Shut-Off Controls <u>§130.1(c)</u>	Primary/Sky lit Daylighting <u>§130.1(d)</u>	Secondary Daylighting <u>§140.6(d)</u>	Interlocked Systems <u>§140.6(a)1</u>		spector Fai
101-Reception (Retail)	All Other Space Types	Manual ON/OFF	Dimmer	Automatic Timer Switch	Included	Included	No	Pass	
102-Cocoon Room	All Other Space Types	Manual ON/OFF	Dimmer	Automatic Timer Switch	N/A	N/A	No		
103-Santuary	All Other Space Types	Manual ON/OFF	Dimmer	Automatic Timer Switch	N/A	N/A	No		
104-Private Office	All Other Space Types	Manual ON/OFF	Exempt*	Automatic Timer Switch	N/A	N/A	No		
105-Clean Room (Storage)	All Other Space Types	Manual ON/OFF	Exempt*	Automatic Timer Switch	N/A	N/A	No		
106-Break Room	All Other Space Types	Manual ON/OFF	Dimmer	Automatic Timer Switch	N/A	N/A	No		
107-Restroom	All Other Space Types	Manual ON/OFF	Exempt*	Automatic Timer Switch	N/A	N/A	No		
107-Restroom	All Other Space Types	Manual ON/OFF	Exempt*	Automatic Timer Switch	N/A	N/A	No		
	5								

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H. INDOOR LIGHTING CONT	TROLS (Not including PAFs)
	uire a note in the space below explaining how compliance is achieved. 13
EX: Conference 1: Primary/Skyl to <u>§130.1(d)2</u>	light Daylighting: Exempt because less than 120 watts of general lighting; EXCEPTION 1 Plan Sheet Showing Daylit Zones:
104-Private Office	Room is less than 100SF
105-Clean Room (Storage)	Room include only 1 luminaire
107-Restroom	Room is less than 100SF
107-Restroom	Room is less than 100SF

ach area complying using the Com 1 <u>40.6(c)</u> or adjustments per <u>§140</u>	pplete Building or Area Category Methods per <u>§140.6</u> . <u>6(a)</u> are being used .	( <u>b)</u> are included in th	his table. Colun	nn 06 indicates if additi	ional lighting power a	llowances per
onditioned Spaces						
01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary	Allowed Density	$\Lambda rop (f+2)$	Allowed Wattage	Additional Allowar	ice / Adjustmer
Alea Description	Function Area	(W/ft ² )	Area (ft ² )	(Watts)	Area Category	PAF
Salon Area (Santuary)	Beauty Salon Area	0.8	702	561.6	No	No
Break Area	Lounge Breakroom or Waiting Area	0.65	151	98.15	No	No
Restroom	Corridor Area	0.6	45	27	No	No
Clean Room (Storage)	Warehouse	0.45	124	55.8	No	No
Reception (Retail)	Retail Merchandise Sales	1	407	407	No	No
Salon Area (Cocoon)	Beauty Salon Area	0.8	118	94.4	No	No
Private Office	Office 250 square feet or less	0.7	75	52.5	No	No
Restroom	Corridor Area	0.6	54	32.4	No	No
		TOTALS:	1,676	1,328.85	See Tables J, o	r P for detail

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STATE OF CALIFORNIA

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Registration Provider: EnergySoft

# Indoor Lighting NRCC-LTI-E

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J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUA	ALIFYING LIGHTING SYSTEM	
This section does not apply to this project.		
K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWAR	NCE	
This section does not apply to this project.		
L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISF	PLAY	
This section does not apply to this project.		
M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR A	ND TASK LIGHTING	
This section does not apply to this project.		
N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED ORNAME	NTAL/SPECIAL EFFECTS	
This section does not apply to this project.		
O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VAL	UABLE MERCHANDISE	
This section does not apply to this project.		
P.POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWE	R ADJUSTMENT FACTOR (PAF))	
This section does not apply to this project.		
Q. RATED POWER REDUCTION COMPLIANCE FOR ALTERATIO	NS	
This section does not apply to this project.		
R. 80% LIGHTING POWER FOR ALLALTERATIONS - CONTROLS	EXCEPTIONS	
This section does not apply to this project.		
S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)		
This section does not apply to this project.		
Registration Number:	Registration Date/Time:	Registration Provider: EnergySoft

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### **Indoor Lighting**

NRCC-LTI-E

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Project Address:	Da	ate Prepared:	12/28/2019

### T. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Yes No		Form/Title		Field Inspector	
163	NO	romynte	Pass	Fail	
	$\bigcirc$	NRCI-LTI-01-E - Must be submitted for all buildings			
$\bigcirc$		NRCI-LTI-02-E- Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.			
$\bigcirc$		NRCI-LTI-04-E - Must be submitted for two interlocked systems serving an auditorium, a convention center, a conference room, a multipurpose room or a theater to be recognized for compliance.			
$\bigcirc$		NRCI-LTI-05-E- Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance.			
<b></b>		NRCI-LTI-06-E- Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance.			

### **U. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE** Selections have been made based on information provided in this document. If any selection have been changed by the permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Yes No		Form/Title		Field Inspector	
		Toriny fide	Pass	Fail	
$\bigcirc$	۲	NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.			
۲	$\bigcirc$	NRCA-LTI-03-A - Must be submitted for automatic daylight controls.			
$\bigcirc$		NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.			
$\bigcirc$		NRCA-LTI-05-A Must be submitted for institutional tuning power adjustment factor (PAF)			

Registration Number:

Registration Date/Time:

# **Indoor Lighting**

NRCC-LTI-E

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Namaste Nails TI	Report Page:	(Page 9 of 9)
Project Address:		Date Prepared:	12/28/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
Documentation Author Name: David Hensel, PE	Documentation Author Signature:
Company:	Signature Date:
Hensel Consulting Engineers, Inc.	2019-12-28
Address:	CEA/ HERS Certification Identification (if applicable):
5857 Owens Ave., 3rd Floor	M32901
City/State/Zip:	Phone:
Carlsbad CA 92008	(619) 665-3259
<ul> <li>of Title 24, Part 1 and Part 6 of the California Code of Regulations.</li> <li>The building design features or system design features identified on this Certificate of Compliance are plans and specifications submitted to the enforcement agency for approval with this building permit a</li> </ul>	es for the building design or system design identified on this Certificate of Compliance conform to the requirements consistent with the information provided on other applicable compliance documents, worksheets, calculations, pplication. th the building permit(s) issued for the building, and made available to the enforcement agency for all applicable
Responsible Designer Name: Jon Doe, AIA	Responsible Designer Signature:
Company:	Date Signed:
Jon Doe Design	2019-12-28
Address:	License:
123 Easy St.	123456
City/State/Zip:	Phone:
San Diego CA 92000	858-123-4567

### **Outdoor Lighting**

NRCC-LTO-E

CALIFORNIA	ENERGY	COMMISSION
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CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Namaste Na	Is TI Report Page: (	(Page 1 of 7)
Project Address:	Date Prepared:	12/28/2019

### A. GENERAL INFORMATION

01	Project Location (city)	Sunnv	Sunnvale 4		Total Illuminated Hardsonne Area (ft2)	
02	Climate Zone	4			Total Illuminated Hardscape Area (ft ² ) 0	
03	03 Outdoor Lighting Zone per Title 24 Part 1 §10.114 or as designated by Authority Having Jurisdiction (AHJ):					
	LZ-0: Very Low - Undeveloped Parkland		LZ-2: Moderate - Rural Areas		LZ-4: High - Must be reviewed by CA Energy Commission for Approval	
	LZ-1: Low - Developed Parkland		LZ-3: Moderately High - Urban Areas			

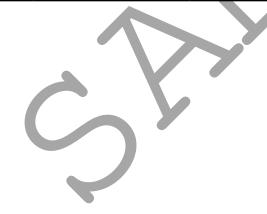
### **B. PROJECT SCOPE**

This table includes outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in <u>\$140.7</u> or <u>\$141.0(b)2L</u> for alterations.

### My Project Consists of:

01		02			
New Lighting System	Must Comply with Allowances from <u>§140.7</u>				
Altered Lighting System	Is your alteration increasing the connected lighting I	oad (Watts)? (	🔵 Yes	$\bigcirc$	No
03	04		05		
% of Existing Luminaires Being Altered ¹	Sum Total of Luminaires Being Added or Altered		Calculation Meth	nod	
□ < 10% □ >= 10% and < 50% □ >= 50%					
Please proceed to Table F. Outdoor Lighting Fixture Schedule to defi	ine the project's luminaires.				

¹ FOOTNOTES: % of Existing Luminaires Being Altered = (Sum Total of Luminaires Being Added or Altered / Existing Luminaires within the Scope of the Permit Application) x 100.



Registration Number:

NRCC-LTO-E

### **Outdoor Lighting**

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name:	Namaste Nails TI Report Page:	(Page 2 of 7)
Project Address:	Date Prepared:	12/28/2019

#### C. COMPLIANCE RESULTS Results in this table are automatically calculated from data input and calculations in Tables F through I. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below. Calculations of Total Allowed Lighting Power (Watts) §140.7 or §141.0(b)2L **Compliance Results** 01 02 03 04 05 06 07 08 09 General Existing Per Sales Per Specific Hardscape Ornamental Power + + + OR Frontage + = ≥ Application Area **Total Allowed Total Actual** §140.7(d)2 Allowance Allowance 07 must be >= 08 §140.7(d)2 §140.7(d)2 §140.7(d)2 (Watts) (Watts) §141.0(b)2L §140.7(d)1 (See Table L) (See Table J) (See Table K) (See Table M) (See Table N) (See Table I) OR COMPLIES 0 + 15 + + + = 15 ≥ 15 **Cutoff Compliance (See Table G for Details)** Not Applicable **Controls Compliance (See Table H for Details)** COMPLIES

#### **D. EXCEPTIONAL CONDITIONS**

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

#### E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

5	
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Registration Number:

### **Outdoor Lighting**

NRCC-LTO-E

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Namaste Nails TI	Report Page:	(Page 3 of 7)
Project Address:		Date Prepared:	12/28/2019

#### F. OUTDOOR LIGHTING FIXTURE SCHEDULE

For new or altered lighting systems demonstrating compliance with <u>\$140.7</u> all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the Table below. For altered lighting systems using the Existing Power method per <u>\$141.0(b)2L</u> only new luminaires being installed and replacement luminaires being installed as part of the project scope are included (ie, existing luminaires remaining or existing luminaires being moved are not included).

Designed Watt	age:										
01	02		03	04	05	06	07	08	09	10	0
Name or Item Tag	Complete Luminaire De	scription	Watts per luminaire ^{1, 2}	How is Wattage	Total number luminaires ²	Luminaire Status ³	Excluded per §140.7(a)	Design Watts	Cutoff Req. > 6,200 initial lumen output	Fie Inspe	
145			lummane	determined	luminares	Status	<u>31110.7 (u)</u>		<u>§130.2(b)</u> ⁴	Pass	Fail
С	Fixture C	🗆 Linear	15	Mfr. Spec ¹	1	New		15	NA: < 6200 Iumens		
						Tota	l Design Watts:	15			
* NOTES: Selection	ons with a * require a note in the	space below expla	aining how compl	iance is achieved							
EX: Luminaire is l	lighting a statue; EXCEPTION 2 to ;	<u>§130.2(b)</u>									

¹FOOTNOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per <u>§130.0(c)</u>

² For linear luminaires, wattage should be indicated as W/lf instead of Watts/luminaire. Total linear feet should be indicated in column 05 instead of number of luminaires.

³ Select "New" for new luminaires in a new outdoor lighting project, or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration. Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of the project scope.

⁴ Compliance with mandatory cutoff requirements is required for luminaires with initial lumen output >= 6,200 unless exempted by §130.2(b)

G. CUTOFF REQUIREMENTS (BUG)		
This section does not apply to this project.		
Registration Number:	Registration Date/Time:	Registration Provider: EnergySoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Report Version: 2019.0.001 Schema Version: rev 20190401 Report Generated: 2019-12-28 12:47:49

STATE	OF (	CALIF	ORNIA
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NRCC-LTO-E

### **Outdoor Lighting**

CERTIFICATE OF COMPLIANCE		
Project Name:	Namaste Nails TI Report Page:	(Page 4 of 7)
Project Address:	Date Prepared:	12/28/2019

#### H. OUTDOOR LIGHTING CONTROLS This table demonstrates compliance with controls requirements for all new or altered luminaires installed as part of the permit application. For alteration projects, luminaires which are existing to remain (ie untouched) and luminaires which are removed and reinstalled (wiring only) do not need to be included in this table even if they are within the spaces covered by the permit application. When an option having a * is selected, the notes section of this table must be completed. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank. Mandatory Controls 01 02 03 04 05 **Field Inspector** Auto-Schedule Shut-Off **Motion Sensor** Area Description §130.2(c)1 §130.2(c)2 §130.2(c)3 Pass Fail * NOTES: Controls with a * require a note in the space below explaining how compliance is achieved. EX: Not permitted by health & safety to be turned off; EXCEPTION 1 to $\frac{130.2(c)}{2}$ I. LIGHTING POWER ALLOWANCE (per §140.7) This table includes areas using allowance calculations per §140.7. General Hardscape 01 Allowance is per Table 140.7-A while "Use it or lose it" Allowances are per Table 140.7-B. "Use it or lose it" Allowance (select all that apply) (select all that apply) General Indicate which allowances are being used to expand sections for user input. Luminaires Hardscape 🛛 Per Per Specific that qualify for one of the "Use it or lose it" allowances shall not qualify for another "Use Sales Frontage Ornamental Allowance Application Area it or lose it" allowance. Table L Table K Table I (below) Table J Table M Calculated General Hardscape Lighting Power Allowance per Table 140.7-A (LZ 0, 1 & 4) This section does not apply to this project. Calculated General Hardscape Lighting Power Allowance per Table 140.7-A (LZ 2 & 3) This section does not apply to this project.

Registration Number:

### **Outdoor Lighting**

NRCC-LTO-E

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Namaste Nails TI	Report Page:	(Page 5 of 7)
Project Address:		Date Prepared:	12/28/2019

J. LIGHTING ALLOWANCE: PER APPLICATION									
This table includes areas using the wattage allowance per application from <u>Table 140.7-B</u> .									
01	02	03	04	05	06	07	08	09	10
			CALCULATED ALLOWANCE (Watts)		DESIGN WATTS		Additional		
Area Description	Application per <u>Table 140.7-B</u> ¹	# of Locations	Allowance per Location ²	Extra Allowance (Watts)	Luminaire Name or Item Tag	Watts per Luminaire	# of Luminaires	Design Watts	Allowance
Outdoor Lighting	Building Entrance/Exit	1	19	19	с	15	1	15	15
Total Design Watts for this Area: 15							15		
Total Allowance (Watts) All Areas						15			

¹ FOOTNOTES: Primary entrance applications are only available for senior care facilities, healthcare facilities, police stations, hospitals, fire stations, and emergency vehicle facilities.

² The Allowance per Location for ATMs is 100W for the first ATM and 35W for each additional per Table 140.7-B.

³ For luminaires indicated in Table F as linear, wattage in column 07 is W/lf instead of Watts/luminaire. Total linear feet should be indicated in column 08 instead of number of luminaires.

#### K. LIGHTING ALLOWANCE: SALES FRONTAGE

This section does not apply to this project.

#### L. LIGHTING ALLOWANCE: ORNAMENTAL

This section does not apply to this project.

#### M. LIGHTING ALLOWANCE: PER SPECIFIC AREA

This section does not apply to this project.

### N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)

This section does not apply to this project.

Registration Number:

Registration Date/Time:

Registration Provider: EnergySoft

NRCC-LTO-E

### **Outdoor Lighting**

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E	
Project Name: Nan	maste Nails TI Report Page:	(Page 6 of 7)
Project Address:	Date Prepared:	12/28/2019

#### O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Yes	No	Form/Title	Field Inspector	
ies	NO	Torny fide	Pass	Fail
۲	$\bigcirc$	NRCI-LTO-01-E - Must be submitted for all buildings		
•		NRCI-LTO-02-E- Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.		

#### P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Yes	No	Form/Title		Field Inspector	
103		Torny fue	Pass	Fail	
٠	$\bigcirc$	NRCA-LTO-02-A - Must be submitted for all outdoor lighting controls except for alterations where controls are added to <= 20 luminaires.			

|--|

Registration Number:

Registration Date/Time:

Registration Provider: EnergySoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Report Version: 2019.0.001 Schema Version: rev 20190401 Report Generated: 2019-12-28 12:47:49

### **Outdoor Lighting**

NRCC-LTO-E

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Namaste Nails TI	Report Page:	(Page 7 of 7)
Project Address:		Date Prepared:	12/28/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
Documentation Author Name: David Hensel, PE	Documentation Author Signature:
Company: Hensel Consulting Engineers, Inc.	Signature Date:
Address: 5857 Owens Ave., 3rd Floor	CEA/ HERS Certification Identification (if applicable): M32901
City/State/Zip: Carlsbad CA 92008	Phone: (619) 665-3259
<ul> <li>of Title 24, Part 1 and Part 6 of the California Code of Regulations.</li> <li>The building design features or system design features identified on this Certificate of Compliance are plans and specifications submitted to the enforcement agency for approval with this building permit a</li> </ul>	es for the building design or system design identified on this Certificate of Compliance conform to the requirements consistent with the information provided on other applicable compliance documents, worksheets, calculations, pplication. In the building permit(s) issued for the building, and made available to the enforcement agency for all applicable
Responsible Designer Name: Jon Doe, AIA	Responsible Designer Signature:
Company: Jon Doe Design	Date Signed: 2019-12-28
Address: 123 Easy St.	License: 123456
City/State/Zip: San Diego CA 92000	Phone: 858-123-4567

### **Mechanical Systems**

#### CALIFORNIA ENERGY COMMISSION

NRCC-MCH-E

NRCC-MCH-E

This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive
path outlined in <u>§140.4</u> , or <u>§141.0(b)2</u> for alterations .

Project Name:	Namaste Nails TI Report Page:	(Page 1 of 14)
Project Address:	Date Prepared:	12/28/2019

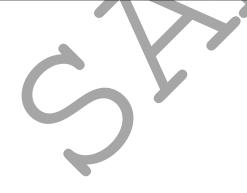
.

Α.	GENERAL INFORMATION				
01	Project Location (city)	Sunnvale	04	Total Conditioned Floor Area	1676
02	Climate Zone	4	05	Total Unconditioned Floor Area	0
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Grade)	1
	Office (B)	🛛 Retail (M)	$\boxtimes$	Non-refrigerated Warehouse (S)	
	Hotel/ Motel Guest Rooms (R-1)	□ School (E)		Healthcare Facility (H)	
	High-Rise Residential (R-2/R-3)	Relocatable Class Bldg (E)		Other (write in)	

### **B. PROJECT SCOPE**

This table Includes mechanical systems or components that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in <u>§140.4</u>, or <u>§141.0(b)2</u> for alterations.

01	02	03
Air System(s)	Wet System Components	Dry System Components
Heating Air System	Water Economizer	Air Economizer
Cooling Air System	🖾 Pumps	Electric Resistance Heat
Mechanical Controls	Hydronic System Piping	A Fan Systems
Mechanical Controls	Cooling Towers	Ductwork
	Chillers	Ventilation
	Boilers	Zonal Systems/ Terminal Boxes



#### **Mechanical Systems**

NRCC-MCH-E

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name: Nama	aste Nails TI Report Page:	(Page 2 of 14)
Project Address:	Date Prepared:	12/28/2019

#### C. COMPLIANCE RESULTS Table C will indicate if the project data input into the compliance document is compliant with mechanical requirements. This table is not editable by the user. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D., or the table indicated as not compliant for guidance. 01 02 03 04 05 06 08 09 07 System System Fans/ Summary Controls Terminal Box Distribution AND AND AND Economizers AND AND AND AND Pumps Ventilation **Cooling Towers** Controls §110.1. §110.2. §120.3 §140.4(k) §140.4(c), §120.1 §110.2(e)2 Compliance Results §110.2, §120.2, §140.4(d) §140.4(I) §140.4(e) §140.4 §140.4(f) (See Table L) (See Table F) (See Table G) (See Table H) (See Table I) (See Table J) (See Table K) (See Table M) AND AND AND Yes AND Yes AND Yes AND Yes Yes AND COMPLIES Mandatory Measures Compliance (See Table Q for Details) COMPLIES

#### **D. EXCEPTIONAL CONDITIONS**

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

#### **E. ADDITIONAL REMARKS**

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

#### F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

This table is used to demonstrate compliance for mechanical equipment with mandatory requirements found in <u>§110.1</u> and <u>§110.2(a)</u> and prescriptive requirements found in <u>§140.4(a)</u>, <u>§140.4(b)</u> and <u>§140.4(k)</u> or <u>§141.0(b)2</u> for alterations.

Dry System	Dry System Equipment Sizing (includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters)									
01	02	03	04	05	06	07	08	09	10	11
					Equipm		er Mechanic <mark>§140.4</mark> (a&b		(Btu/h)	
Name or	Equipment Category per	Smallest Size	Hea	ating Outpu	t ^{2,3}	Cooling Output ^{2,3}				
Item Tag	Tables 110.2	Equipment Type per Tables <u>110.2</u> & <u>Title 20</u>	Available ¹ §140.4(a)	Per Design (kBtu/h)	Rated (kBtu/h)	Supp. Heating Output (kBtu/h)	Sensible Per Design (kBtu/h)	Rated (kBtu/h)	Total Heating Load	Total Sensible Cooling Load

Registration Number:

Registration Date/Time:

Registration Provider: EnergySoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

#### **Mechanical Systems**

NRCC-MCH-E

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name: Namaste Nails	Report Page:	(Page 3 of 14)
Project Address:	Date Prepared:	12/28/2019

F. HVAC S	YSTEM SUMMARY (DRY &	WET SYSTEMS)								
WSHP-1	Unitary Heat Pumps	Water source	Yes	44132	48000	0	38714	34500	21885	24362
WSHP-2	Unitary Heat Pumps	Water source	Yes	42243	48000	0	39694	34500	17922	23221

¹FOOTNOTES: Equipment shall be the smallest size, within the available options of the desired equipment line, necessary to meet the design heating and cooling loads of the building per <u>§140.4(a)</u>. Healthcare facilities are excepted.

²It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.

³ If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.

⁴ Authority Having Jurisdiction may ask for load calculations used for compliance per <u>§140.4(b)</u>.

Dry System	Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP))											
01	02			03	03 04			06		07	08	09
						Heating Mode				Coolir	ng Mode	
Name or Ite Tag	em Size Cat (Btu/			Rating Condition (°F)	Efficiency Unit R		Minimum Efficiency Required per Tables <u>110.2</u> / <u>Title 20</u>	Design Efficiency	Efficiency Unit		Minimum Efficiency Required per Tables <u>110.2</u> / <u>Title 20</u>	I ETHCIENCY I
WSHP-1	65,0	00			C	ЮР	4.3	4.2		EER	13.0	16.1
WSHP-2	65,0	00			СОР		4.3	4.2	EER		13.0	16.1
Heat Reject	tion Equipment (Coc	ling T	owers, C	Condensers, W	aterside Econor	mizers) Efficiency	and Controls					
01	02	03		04	05	06	07	08	09	10	11	12
Name or Item Tag	Equipment Type ¹	Qty	Rating	Condition ( °F)	Rated Performance	Minimum Required Performance p <u>Table 110.2-G</u> a §140.4(h)5			Tower Flow Turndown <u>§140.4(h)3</u>	L Fauinment	Economizer Controls <u>§140.4(h)5</u>	Condenser Water Temp Reset Controls
CT-1(E)	Propeller/ axial fan open-circuit cooling tower	1	C		0	42.1 gpm/hp	GPM/H	p Yes	NA: Single condenser water pump	Yes		No

¹FOOTNOTES: Centrifugal fan open-circuit towers are not allowed for rated capacities >= 900 gpm at 95 °F condenser water return, 85 °F condenser water supply and 75 °F outdoor wet-bulb temperature. Exceptions may apply per  $\frac{$140.4(h)4}{4}$ .

**Registration Number:** 

Registration Date/Time:

Registration Provider: EnergySoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

#### **Mechanical Systems**

NRCC-MCH-E

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Namaste Nails TI	Report Page:	(Page 4 of 14)
Project Address:		Date Prepared:	12/28/2019

G. PUMPS											
This table is used	This table is used to demonstrate compliance with Prescriptive hydronic system requirements found in <u>§140.4(k)</u> applicable to pumps < 5hp.										
01	02	03	04	05	06	07	08				
Name or Item				Controls per <u>§140.4(k)</u>							
Tag	Equipment Type	Qty	HP	Variable Flow	Hydronic Heat Pump Isolation	VSD on Pumps > 5HP	Differential Pressure Sensor				
CW	Condenser water	1	1	Yes	Yes	Yes	Required				

#### H. FAN SYSTEMS & AIR ECONOMIZERS

This table is used to demonstrate compliance with prescriptive requirements found in <u>§140.4(c)</u>, <u>§140.4(e)</u> and <u>§140.4(m)</u> for fan systems. Fan systems serving healthcare facilities, or those serving only process loads, are exempt from these requirements and do not need to be included in Table H.

-			-	•							
System Name:	WSHP-1	Econor	nizer:1	NA: 54 kBtu/h cooling	Econom Contro		Desi	gned per and (m)	System Fan Type:	Fixed Flow	
01	02		03	04			05	06	07	08	
Fan Namo or									Fan Power Pressure Drop A	djustment - <u>Table 140.4-B</u>	
Fan Name or Item Tag	Fan Functio	'n	Qty	Maximum Design Supply (CFM)	AITIOW	Airflow HP Unit ²		Design HP	Device	Design Airflow through Device (CFM)	
SF	Supply		1	1600	внр		знр	0.5			
Total Syst	Total System Design Supply Airflow (CFM):			1600	Total System Design (B)HP:		- 1 05		Maximum System Fan Power (B)HP:	1.5	
System Name:	WSHP-1	Econor	nizer:1	NA: 54 kBtu/h cooling		Economizer Controls: Desig		gned per and (m)	System Fan Type:	Fixed Flow	
01	02		03	04			05	06	07	08	
Fan Name or				Maximum Design Supply					Fan Power Pressure Drop Adjustment - <u>Table 140.4-B</u>		
Item Tag	Fan Functio	'n	Qty	(CFM)	AITHOW	HP Unit ²		Design HP	Device	Design Airflow through Device (CFM)	
SF	Supply		1	1600		E	знр	0.5			
Total System Design Supply Airflow (CFM):		1600	Total System Design (B)HP:		1 05		Maximum System Fan Power (B)HP:	1.5			

¹ FOOTNOTES: Computer room economizers must meet requirements of  $\frac{\$140.9(a)}{100}$  and will be documented on the NRCC-PRC-E document.

**Registration Number:** 

Registration Date/Time:

Registration Provider: EnergySoft

### **Mechanical Systems**

NRCC-MCH-E

CERTIFICATE OF COMPLIANCE					
Project Name:	Namaste Nails TI	Report Page:	(Page 5 of 14)		
Project Address:		Date Prepared:	12/28/2019		

#### H. FAN SYSTEMS & AIR ECONOMIZERS

² If total filter pressure drop (SPa) is greater than 1 in WC, or 245 Pascal then enter it and total fan pressure drop across the fan (SPf) for system.

#### I. SYSTEM CONTROLS

This table is used to demonstrate compliance with mandatory controls in <u>§110.2</u> and <u>§120.2</u> and prescriptive controls in <u>§140.4(f)</u> and (n) or requirements in <u>§141.0(b)2E</u> for altered space conditioning systems.

01	02	03	04	05	06	07	08	09
System Name	System Zoning	Conditioned Floor Area Being Served (ft ² )	Thermostats	Shut-Off Controls <u>§120.2(e)</u>	Isolation Zone Controls <u>§120.2(g)</u>	Demand Response <u>§120.2(b)</u>	Supply Air Temp. Reset <u>§140.4(f)</u>	Window Interlocks per <u>§140.4(n)</u>
WSHP-1	Single zone	25,000 ft2	Energy Management System (EMS)	NA: 7 day per	4 Hour Timer	EMCS	NA: Alteration	NA: Alteration Project
WSHP-2	Single zone	25,000 ft2	Energy Management System (EMS)	NA: 7 day per	4 Hour Timer	EMCS	NA: Alteration	NA: Alteration Project

¹FOOTNOTES: Gravity gas wall heaters, gravity floor heaters, gravity room heaters, non-central electric heaters, fireplaces or decorative gas appliances, wood stoves are not required to have setback thermostats.

*Notes: Controls with a * require a note in the space below explaining how compliance is achieved. EX: system 1: SA Temp Reset: Exempt because zones compliant with <u>§140.4(d)</u>; EXCEPTION 1 to <u>§140.4(f)</u>

### J. VENTILATION AND INDOOR AIR QUALITY

This table is used to demonstrate compliance with mandatory ventilation requirements in <u>§120.1</u> and <u>§120.2(e)3B</u> for all nonresidential, high-rise residential and hotel/motel								
occupancies. Fo	occupancies. For alterations, only ventialtion systems being altered within the scope of the permit application need to be documented in this table. In lieu of this table, the required							
outdoor ventila	ition rates a	nd airflows may be shown on the plans or the calculations can be presented in a spreadsheet.						
01		Check the box if the project is showing ventilation calculations on the plans, or attaching the calculations instead of completing this table.						
02		Check this box if the project included new or altered high-rise residential dwelling units.						
03		Check the box if the project is using natural ventilation in any nonresidential or hotel/motel spaces to meet required ventilation rates per §120.1(c)2.						
Nonresidential and Hotel/ Motel Ventilation Systems								

Registration Number:

Registration Date/Time:

Registration Provider: EnergySoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

# **Mechanical Systems**

NRCC-MCH-E

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRC		
Project Name:	Namaste Nails TI	Report Page:	(Page 6 of 14)	
Project Address:		Date Prepared:	12/28/2019	

J. VENTILATIO	N AND INDOOR AIR QUALITY								
	04		05				06	0	7
System Name	WSHP-1	System Desi Airflo	-	381.65	System Design Transfer Air CFM		Air Filtration per <u>§120.1(c)</u> and <u>§141.0(b)2</u> ² Provided per <u>§120.1(c)</u> (NR and Hotel/Motel))		
08	09	10	11	12	13	14	15	1	6
	Mechanical Ventilation Required per <u>§120.1(c)3</u> ³					Exh.	Vent per <u>§120.1(c)4</u>		
Space Name ot item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft ² )	# of Shower heads/ toilets	# of people⁵	Required Min OA CFM	Required Min CFM		DCV or Sensor Cont <u>§120.1(d)5</u> , ar	
Salon Area (Santuary)	Barbershop	702			280.8	351	0	DCV	NA: Not required per §120.1(d)3
(00000000)								Occ Sensor	
	04		05				06	0	7
System Name	WSHP-1	System Desi Airflo	-	381.65	System Transfer	/ =	0	Air Filtration per <u>§120</u> Provided per <u>§1</u> Hotel/I	20.1(c) (NR and
08	09	10	11	12	13	14	15	1	6
	Mechanical Ventila	tion Required	per <u>§120.1(c</u> )	3 3		Exh.	Vent per <u>§120.1(c)4</u>		
Space Name ot item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft ² )	# of Shower heads/ toilets	# of people⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Cont <u>§120.1(d)5</u> , ar	
Salon Area (Santuary)	Barbershop	702			280.8	351	0	DCV Occ Sensor	NA: Not required per <u>§120.1(d)3</u>
<u>├</u> ──── <del>│</del>									NA: Not required per
Break Area	Break room	151			75.5	0	0	DCV	<u>§120.1(d)3</u>
								Occ Sensor	

**Registration Number:** 

Registration Date/Time:

# **Mechanical Systems**

NRCC-MCH-E

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE				
Project Name: Namaste Na	s TI Report Page:	(Page 7 of 14)		
Project Address:	Date Prepared:	12/28/2019		

J. VENTILATIO	N AND INDOOR AIR QUALITY								
	04		05				06	07	
System Name	WSHP-1	System Desi Airflo	-	381.65	System Design Transfer Air CFM		Provided per §1	Air Filtration per $\frac{120.1(c)}{120.1(c)}$ and $\frac{141.0(b)2^2}{120.1(c)}$ Provided per $\frac{120.1(c)}{120.1(c)}$ (NR and Hotel/Motel))	
08	09	10	11	12	13	14	15	1	.6
	Mechanical Ventila	tion Required	per <u>§120.1(c</u>	<u>3</u> ³		Exh.	Vent per <u>§120.1(c)4</u>		
Space Name ot item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft ² )	# of Shower heads/ toilets	# of people⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM		trols per <u>§120.1(d)3</u> , nd <u>§120.1(e)3</u> ⁶
Salon Area (Santuary)	Barbershop	702			280.8	351	0	DCV	NA: Not required per §120.1(d)3
(Santuary)								Occ Sensor	
Break Area	Break room	151			75.5	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	
Restroom	Corridor Transition	45			6.75	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	
	04	-	05				06	07	
		System Desi	en OA CFM		System	Design		Air Filtration per <u>§120</u>	0.1(c) and <u>§141.0(b)2</u> ²
System Name	WSHP-1	Airflo		381.65	Transfer	-	0		. <u>20.1(c)</u> (NR and Motel))
08	09	10	11	12	13	14	15	1	.6
	Mechanical Ventila	tion Required	per <u>§120.1(c</u>	<u>3</u> 3		Exh.	Vent per <u>§120.1(c)4</u>		
Space Name ot item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft ² )	Conditioned # of Shower # of Floor Area heads/ poorl		Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per <u>§120.1(d)3</u> <u>§120.1(d)5</u> , and <u>§120.1(e)3</u> ⁶	

**Registration Number:** 

Registration Date/Time:

# **Mechanical Systems**

NRCC-MCH-E

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Namaste Nails TI <b>Rep</b>	eport Page:	(Page 8 of 14)
Project Address:	Dat	ate Prepared:	12/28/2019

J. VENTILATIOI	N AND INDOOR AIR QUALITY						•		
Salon Area (Santuary)	Barbershop	702			280.8	351	0	DCV	NA: Not required per §120.1(d)3
(Santuary)								Occ Sensor	
Break Area	Break room	151			75.5	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	
Restroom	Corridor Transition	45			6.75	5 0 0		DCV	NA: Not required per §120.1(d)3
					Occ Sensor				
Clean Room (Storage)	Occupiable storage rooms for liquids/ gels	124			0	186	0	DCV	NA: Not required per §120.1(d)3
(Storage)	liquius/ gels							Occ Sensor	
	04		05				06	07	
		System Desi			Sustam	Docign		Air Filtration per $\frac{120.1(c)}{2}$ and $\frac{141.0(b)2}{2}$	
System Name	WSHP-2	Airfle	-	168.3	System Design Transfer Air CFM		0	Provided per <u>§120.1(c)</u> (NR and Hotel/Motel))	
08	09	10	11	12	13	14	15	1	.6
	Mechanical Ventila	tion Required	per <u>§120.1(c</u>	<mark>3</mark> ³		Exh.	Vent per <u>§120.1(c)4</u>		
Space Name ot item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft ² )	# of Shower heads/ toilets	# of people⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM		trols per <u>§120.1(d)3</u> , nd <u>§120.1(e)3</u> ⁶
Reception (Retail)	Retail sales	407	7		101.75	0	0	DCV	NA: Not required per §120.1(d)3
(netan)								Occ Sensor	
	04		05				06	(	)7
		System Desi	System Design OA CFM		System	Design			0.1(c) and §141.0(b)2 ²
System Name	WSHP-2	Airflo	-	168.3	Transfer		0	Provided per <u>§120.1(c)</u> (NR and Hotel/Motel))	
08	09	10	11	12	13	14	15	1	.6

**Registration Number:** 

Registration Date/Time:

# **Mechanical Systems**

NRCC-MCH-E

CERTIFICATE OF COMPLIANCE		NRCC		
Project Name:	Namaste Nails TI	Report Page:	(Page 9 of 14)	
Project Address:		Date Prepared:	12/28/2019	

J. VENTILATION	I AND INDOOR AIR QUALITY								-
	Mechanical Ventila	tion Required	per <u>§120.1(c</u> )	<u>3</u> ³	Exh. V	Vent per <u>§120.1(c)4</u>			
Space Name ot item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft ² )	# of Shower heads/ toilets	# of people⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per <u>§120.1(d)3</u> , <u>§120.1(d)5</u> , and <u>§120.1(e)3</u> ⁶	
Reception (Retail)	Retail sales	407			101.75	0 0		DCV	NA: Not required per §120.1(d)3
, ,								Occ Sensor	
Salon Area (Cocoon)	Barbershop	118			47.2	7.2 59 0		DCV	NA: Not required per §120.1(d)3
								Occ Sensor	
	04	05			·	06	C	7	
		System Design OA CFM				Design		Air Filtration per $\frac{120.1(c)}{2}$ and $\frac{141.0(b)2}{2}^{2}$	
System Name			- 1468 - 1			onsfer Air CFM 0		Provided per <u>§120.1(c)</u> (NR and Hotel/Motel))	
08	09	10	11	12	13	14	15	16	
	Mechanical Ventila	tion Required	per <u>§120.1(c</u> )	<u>3</u> ³		Exh. \	Vent per <u>§120.1(c)4</u>		
Space Name ot item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft ² )			Required Min OA CFM	Required Min CFM	Provided per Design CFM		rols per <u>§120.1(d)3</u> , Id <u>§120.1(e)3</u> ⁶
Reception (Retail)	Retail sales	407			101.75	0	0	DCV	NA: Not required per §120.1(d)3
(Retail)								Occ Sensor	
Salon Area (Cocoon)	Barbershop	118			47.2	59	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	
Private Office	Office space	75			11.25	0	0	DCV	NA: Not required per §120.1(d)3
1 1					1			Occ Sensor	

**Registration Number:** 

Registration Date/Time:

Registration Provider: EnergySoft

#### **Mechanical Systems**

NRCC-MCH-E

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC		
Project Name:	Namaste Nails TI	Report Page:	(Page 10 of 14)	
Project Address:		Date Prepared:	12/28/2019	

J. VENTILATION AND INDOOR AIR QUALITY										
	04		05	05 06			06	C	)7	
		System Desi	gn ΩΔ CFM		System	Design		Air Filtration per <u>§120</u>	0.1(c) and <u>§141.0(b)2</u> ²	
System Name	WSHP-2	Airflo	-	168.3	.3 Transfer Air CFM		0		. <u>20.1(c)</u> (NR and Motel))	
08	09	10	11	12	13	14	15	1	.6	
	Mechanical Ventila	tion Required	per <u>§120.1(c</u> )	<mark>3</mark> ³		Exh.	Vent per <u>§120.1(c)4</u>			
Space Name ot item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft ² )	# of Shower heads/ toilets	# of people ⁵		Required Min CFM		DCV or Sensor Controls per <u>§120.1(d)3</u> , <u>§120.1(d)5</u> , and <u>§120.1(e)3</u> ⁶		
Reception (Retail)	Retail sales	407			101.75	0	0	DCV	NA: Not required per §120.1(d)3	
(netany								Occ Sensor		
Salon Area (Cocoon)	Barbershop	118			47.2	59	0	DCV	NA: Not required per §120.1(d)3	
(COCOON)								Occ Sensor		
Private Office	Office space	75			11.25	0	0	DCV	NA: Not required per §120.1(d)3	
		)						Occ Sensor		
Restroom	Corridor Transition	54			8.1	0	0	DCV	NA: Not required per §120.1(d)3	
								Occ Sensor		

¹ FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system

² Air filtration requirements apply to the following three system types per <u>§120.1(c)1A</u>: space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.

³ Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.

⁴ See <u>Standards Tables 120.1-A</u> and 120.1-B.

⁵ For lecture halls with fixed seating, the expected number of occupants shall be shall be determined in accordance with the California Building Code.

**Registration Number:** 

Registration Date/Time:

Registration Provider: EnergySoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

#### **Mechanical Systems**

NRCC-MCH-E

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name: Namast	te Nails TI Report Page:	(Page 11 of 14)
Project Address:	Date Prepared:	12/28/2019

#### I. VENTILATION AND INDOOR AIR QUALITY

⁶ <u>§120.2(e)3</u> requires systems serving rooms that are required by <u>§130.1(c)</u> to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 250ft² or smaller, multipurpose rooms less than 1,000 ft², classrooms, conference rooms, restrooms, aisles and open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by <u>§130.1(c)</u>.

#### K. TERMINAL BOX CONTROLS

This section does not apply to this project.

#### L. DISTRIBUTION (DUCTWORK and PIPING)

This section does not apply to this project.

#### M. COOLING TOWERS

This table is used to demonstrate compliance with mandatory requirements in <u>§110.2(e)2</u> for cooling towers with a rated capacity > 150 tons. This table calculates the maximum Cycles of Concentration using the Langelier Saturation Index (LSI) calculations per <u>§110.2(e)2</u>.

01	$\boxtimes$	Check the box if the project is showing calculations on the plans, or attaching the calculations instead of completing this Table.									
02	03	04	05	06	07	08	09	10	11		
Name or Item Tag	Design C	Conditions	Rated Conditions	Maximum Skin Temp ( °F)	Conductivity	M-Alkalinity	Calcium Hardness	Magnesium Hardness	Target Tower		
	Design GPM	Min Flow GPM	GPM/HP					Taruness	Cycles		
						Calculated pH @ Target Cycles	pH Saturation @ Target Cycles	Tower LSI Based on Calculated pH	Complies		

#### N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

ſ	Yes	No	Form/Title	Field In	spector
	103		Torny nuc	Field Inspector     Pass	Fail
[	۲	$\bigcirc$	NRCI-MCH-01-E - Must be submitted for all buildings		

Registration Number:

Registration Date/Time:

# **Mechanical Systems**

NRCC-MCH-E

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E	
Project Name:	Namaste Nails TI	Report Page:	(Page 12 of 14)
Project Address:		Date Prepared:	12/28/2019

O. DECLAR	RATION OF R	EQUIRED CERTIFICATES OF ACCEPTANCE					
These docu	ments must b	de based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Tabl e provided to the building inspector during construction and can be found online at ov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/	le E Additiona	l Remarks.			
Yes No Form/Title							
			Pass	Fail			
۲	$\bigcirc$	NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap.					
•	0	NRCA-MCH-03-A - Constant Volume Single Zone HVAC NOTE: This form does not automatically move to "Yes'. If Constant Volume Single Zone HVAC Systems are included in the scope, permit applicant should move this form to "Yes".					
$\bigcirc$		NRCA-MCH-04-A - Air Distribution Duct Leakage					
$\bigcirc$		NRCA-MCH-05-A - Air Economizer Controls					
0	•	NRCA-MCH-06-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilation (refer to <u>§120.1(c)3</u> ) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO ₂ ) concentration setpoints.					
$\bigcirc$		NRCA-MCH-07-A Supply Fan Variable Flow Controls					
	$\bigcirc$	NRCA-MCH-08-A Valve Leakage Test					
$\bigcirc$		NRCA-MCH-09-A Supply Water Temperature Reset Controls					
$\bigcirc$		NRCA-MCH-10-A Hydronic System Variable Flow Controls					
$\bigcirc$		NRCA-MCH-11-A Automatic Demand Shed Controls					
$\bigcirc$		NRCA-MCH-12-A FDD for Packaged Direct Expansion Units					
$\bigcirc$		NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance					
$\bigcirc$		NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance NOTE: This form does not automatically move to "Yes". If Distributed Energy System DX AC Systems are included in teh scope permit applicant should move this form to 'Yes".					
0	•	NRCA-MCH-15-A Thermal Energy Storage (TES) System Acceptance NOTE: This form does not automatically move to "Yes". If Chilled water Storage, Ice-on-Coil Internal Melt, Ice-on-Coil External melt, Ice Harvester, Brine, Ice-Slurry, Eutecti Salt, Clathrate Hydrate Slurry (CHS), Cryogenic or Encapsulated (Ice Ball) Systems are included in the scope, permit applicant should move this form to 'Yes".					
$\bigcirc$		NRCA-MCH-16-A Supply Air Temperature Reset Controls					
$\bigcirc$		NRCA-MCH-17-A Condenser Water Temperature Reset Controls					
		NRCA-MCH-18-A Energy Management Control Systems					

**Registration Number:** 

Registration Date/Time:

### **Mechanical Systems**

NRCC-MCH-E

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Namaste Nails TI	Report Page:	(Page 13 of 14)
Project Address:		Date Prepared:	12/28/2019

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE								
$\bigcirc$		NRCA-MCH-19-A Occupancy Sensor Controls						
$\bigcirc$	۲	NRCA-MCH-20 Multi-Family Ventilation						
$\bigcirc$	۲	NRCA-MCH-21 Multi-Family Envelope Leakage						

#### P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be completed by a HERS Rater and provided to the building inspector during construction. The finsl documents must be creted by a HERS Providrs registry, but drafts can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCV/

Yes	No	Form/Title	Field In	spector
105	No Tomy nice	romynice	Pass	Fail
$\bigcirc$		NRCV-MCH-04-H Duct Leakaage Test NOTE: Must be completed by a HERS Rater		
$\bigcirc$	۲	NRCV-MCH-24 Enclosure Air Leakaage Worksheet NOTE: Must be completed by a HERS Rater		
$\bigcirc$	۲	NRCV-MCH-27 High-rise Resdential NOTE: Must be completed by a HERS Rater		
$\bigcirc$		NRCV-MCH-32 Local Mechanical Exhaust NOTE: Must be completed by a HERS Rater		

# Q. MANDATORY MEASURES DOCUMENTATION LOCATION

This table is used to indicate where mandatory measures are documented in the plan set or construction documentation.						
01	02					
Compliance with Mandatory Measures documented through MCH Yes	Plan sheet or construction document location					
Mandatory Measures Note Block ¹	M-Sheets					

Ċ	K	7

Registration Number:

# **Mechanical Systems**

NRCC-MCH-E

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Namaste Nails TI	Report Page:	(Page 14 of 14)
Project Address:	[	Date Prepared:	12/28/2019

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
Documentation Author Name: David Hensel, PE	Documentation Author Signature:
Company:	Signature Date:
Hensel Consulting Engineers, Inc.	2019-12-28
Address:	CEA/ HERS Certification Identification (if applicable):
5857 Owens Ave., 3rd Floor	M32901
City/State/Zip:	Phone:
Carlsbad CA 92008	(619) 665-3259
<ul> <li>of Title 24, Part 1 and Part 6 of the California Code of Regulations.</li> <li>The building design features or system design features identified on this Certificate of Compliance are plans and specifications submitted to the enforcement agency for approval with this building permit a</li> </ul>	es for the building design or system design identified on this Certificate of Compliance conform to the requirements consistent with the information provided on other applicable compliance documents, worksheets, calculations, pplication. In the building permit(s) issued for the building, and made available to the enforcement agency for all applicable
Responsible Designer Name: Jon Doe, AIA	Responsible Designer Signature:
Company:	Date Signed:
Jon Doe Design	2019-12-28
Address:	License:
123 Easy St.	123456
City/State/Zip:	Phone:
San Diego CA 92000	858-123-4567

CERTIFICATE OF COMPLIANCE

# **Domestic Water Heating System**

NRCCPLBE

#### CALIFORNIA ENERGY COMMISSION

NRCCPLBE

Project Name:		Namaste I	lails TI Report Page	•				(Page 1 of 8
Project Address:			Date Prepare	ed:				12/28/2019
A. GENERAL INFORMATION								
01 Project Location (city)	Sunr	vale	02	Climate Zone			4	
03 Occupancy Types Within P	roject (select all that apply):							
Nonresidential	High-Rise Residential	Hotel/Motel						
□ State Building	Healthcare Facility Other (Write In)							
B. PROJECT SCOPE	er heating systems that are withir	the scope of the pe	rmit application a	nd are demonstratin	na complian	ce using the pre-	scriptive paths outli	ined in §140.5.
<u>§150.1(c)8</u> , and <u>§141.0(a)</u> , or <u>§14</u>	4 <u>1.0(b)2N</u> for additions or alteration of the NRCC-MCH compliance d	ions. Solar water he						
	01			02			03	
My project con	sists of (check all that apply):		Syste	em Type ^{1,2}		Sy	stem Components	
New system (DHW system being installed for the first time in newly constructed building)			vidual System (ser	ving nonresidential	spaces)	🛛 Equipment	Distribution	⊠ Controls
	System Alteration (equipment, distribution or controls)					Equipment	Distribution	Controls



**Registration Number:** 

Registration Date/Time:

### **Domestic Water Heating System**

NRCCPLBE

Project Name:	Namaste Nails TI	Report Page:	(Page 2 of 8)	
Project Address:		Date Prepared:	12/28/2019	

#### C. COMPLIANCE RESULTS Table C will indicate if the project data input into the compliance document is compliant with water heating requirements. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. or the table indicated as not compliant for guidance. 01 02 03 04 **Distribution Systems Domestic Hot Water Equipment** Controls **Compliance Results** Table F Table G Table H Yes COMPLIES Yes

#### **D. EXCEPTIONAL CONDITIONS**

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

#### E. ADDITIONAL REMARKS

This table is includes remarks made by the permit applicant to the Authority Having Jurisdiction.

Registration Number:

Registration Date/Time:

Registration Provider: EnergySoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

### **Domestic Water Heating System**

NRCCPLBE

CERTIFICATE OF COMPLIANCE		NRCCPLBE
Project Name:	Namaste Nails TI Report Page:	(Page 3 of 8)
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#### F. DOMESTIC HOT WATER EQUIPMENT

This table is used to demonstrate compliance with mandatory equipment requirements in  $\frac{\$110.1}{\$110.2}$  and  $\frac{\$110.3}{\$110.3}$ . For high-rise residential and hotel/motel occupancies, compliance with prescriptive requirements in  $\frac{\$150.1(c)8}{\$150.1(c)8}$  must also be demonstrated and with  $\frac{\$150.2}{\$150.2}$  for addition and alteration scopes.

Equipment	Schedule: Individual Systems				
01	02	03	04	05	06
Name or Item Tag	Equipment Type	Volume (gal)	Max GPM/ First Hour Rating (FHR)	Rated Uniform Energy Factor (UEF)	Minimum Required Uniform Energy Factor (UEF) ¹
WH-1	Gas-Fired Instantaneous (50,000-200,000 BTUH)	<=2	GPM >= 4.0	0.93	0.81

¹FOOTNOTE: Compliant equipment may be found in the Modernized Appliance Efficiency Database System (MAEDBS) on the Energy Commission website: https://cacertappliances.energy.ca.gov/Pages/Search/AdvancedSearch.aspx

Water Hea	ting Equipment All Occupancies				
	Yes	No	Not Applicable		Requirement
18				Unfired storage tank per <u>§110.3(c)3</u>	insulation shall have Internal + External >=R-16 OR External >=R-12. Label required
19			$\boxtimes$	New state buildings per <u>§110.3(c)5</u>	60% of energy for service water heating from site solar energy or recovered energy
20				Isolation valves for in per <u>§110.3(c)6</u>	nstantaneous water heater with input rating <6.8 kBTUH or 2 kW has been specified

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G. DOME	STIC HOT WA	TER DISTRIE	BUTION SYSTI	EM					
	This table is used to demonstrate compliance for nonresidential occupancies with distribution requirements in §120.3 and §140.5. For high-rise residential and hotel/motel occupancies,								
· · ·	compliance is demonstrated with requirements <u>§110.3(c)</u> , <u>§120.3</u> , <u>§150.0</u> , <u>§150.1</u>								
Recirculati	on Loops in C	entral System		Iling Units or Nonresidential Spaces					
	Yes	No	Not Applicable	Requirement					
01									
02									
03									
04			]						
05									
06									
07			J						
Distributio	on in Individua	l Dwelling Ur							
	Yes	No	Not Applicable	Requirement					
				The dwelling unit is designed to have fenestration products with a weighted average U-factor <=0.24 plus one of the following options per <u>§150.1(c)8Aii</u> : (New Construction Only)					
00				Compact hot water distribution system field verified by a HERS Rater per <u>Reference Appendix RA4.4.16</u>					
08	$\bigcirc$	$\bigcirc$		A drain water heat recovery system that is field verified by a HERS rater per Reference Appendix RA3.6.9					
				Compact hot water distribution system field verified by a HERS Rater per Reference Appendix RA4.4.16					
				A drain water heat recovery system that is field verified by a HERS rater per Reference Appendix RA3.6.9					
				One of the following options is included in the design per <u>\$150.1(c)8Aiv</u> : (New Construction only)					
				<ul> <li>Compact hot water distribution system field verified by HERS rater per <u>Reference Appendix RA4.4.6</u> and a drain water heat recovery system that is field verified by a HERS rater per <u>Reference Appendix RA3.6.9</u></li> </ul>					
				<ul> <li>A photovoltaic system capacity of 0.3kWdc (for climate zones 2-15) or 1.1kWcd (for climate zones 1 &amp; 16) larger than the</li> </ul>					
				requirement specified in <u>§150.1(c)14</u> .					
				Compact hot water distribution system field verified by HERS rater per Reference Appendix RA4.4.6 and a drain water heat recovery system that is field verified by a HERS rater per Reference Appendix RA3.6.9					

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G. DOMESTIC HOT WATER DISTRIBUTION SYSTEM						
					A photovoltaic system capacity of 0.3kWdc (for climate zones 2-15) or 1.1kWcd (for climate zones 1 & 16) larger than the requirement specified in §150.1(c)14.	
09 10	0		•	• Co • A p	e following options is included in the design per <u>§150.1(c)8Av</u> : (New Construction only) mpact hot water distribution system per <u>Reference Appendix RA4.4.6</u> for projects in climates zones 1 and 16. photovoltaic system capacity of 0.3kWdc (form climate zones 1 and 16) larger than the requirement specified in <u>50.1(c)14</u> .	
					Compact hot water distribution system per Reference Appendix RA4.4.6 for projects in climates zones 1 and 16.	
					A photovoltaic system capacity of 0.3kWdc (form climate zones 1 and 16) larger than the requirement specified in §150.1(c)14.	
Mandatory	y Pipe Insulat	ion All Occupan	cies			
11		<ul> <li>7.7 per §150.0(</li> <li>The first</li> <li>All hot w</li> <li>All hot w</li> <li>Piping w</li> <li>Piping w</li> </ul>	j)2A : 5ft of cold w vater piping v vater piping v vith nominal c vith nominal c	ater pipe vith nomi vith nomi liameter liameter	be insulation for the following applications is specified to have a minimum wall thickness of 1 in or a minimum R-value of s form storage tank nal diameter of 3/4 in - 1 in nal diameter < 3/4 in associated with DHW recirculation systems < 3/4 from heating source to storage tank or between tanks < 3/4 buried below grade nal diameter < 3/4 from heating source to kitchen fixtures	
12	Image: Second					
13	X				mage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall putdoor service per <u>§120.3(b)</u> and <u>§150.0(j)3</u>	

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Registration Provider: EnergySoft

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#### H. DOMESTIC HOT WATER CONTROLS This table is used to demonstrate compliance with control requirements in §110.3 for all occupancies. For high-rise residential and hotel/motel occupancies, compliance is also demonstrated with requirements in §150.1(c)8. Not Requirement Yes No Applicable Construction documents require manufacturer certification that service water-heating systems are equipped with automatic $\boxtimes$ П 01 temperature controls capable of adjusting temperature settings per §110.3(a). Systems with capacity > 167,000 BTUH equipped with outlet temperature controls per $\frac{10.3(c)1}{c}$ unless covered by California $\boxtimes$ П Π 02 Plumbing Code 613.0. Controls for circulating pumps or electrical heat trace systems are capable of automatically turning off the system per $\boxtimes$ 03 §110.3(c)2 unless systems serves healthcare facility. For recirculation systems serving multiple dwelling units, design includes automatic pump controls per <u>§150.1(c)8Bii</u>, or <u>§150.2</u> $\boxtimes$ П Π 04 for additions or alterations. For recirculation systems serving individual dwelling units, design includes manual on/off controls as specified in Reference $\boxtimes$ Π Π 05 Appendix RA4.4.9 per §150.1(c)8. For replacement single heat pump water heaters serving individual dwelling units in climate zone 1-15, design includes $\boxtimes$ П 06 communication interface that meets demand responsive control requirements of §110.12(a) per §150.2(b)1Hiii.

#### I. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Yes	No	Form/Title	Field Inspector	
103	NO	i onny nice	Pass	Fail
	$\bigcirc$	NRCI-PLB-01-E - Must be submitted for all buildings		
0		NRCI-PLB-02-E - Must be submitted for high-rise residential and hotel/motel central hot water distribution systems to be recognized for compliance.		
$\bigcirc$		NRCI-PLB-03-E - Must be submitted for high-rise residential and hotel/motel single dwelling unit hot water distribution systems to be recognized for compliance.		

Registration Number:

Registration Date/Time:

Registration Provider: EnergySoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

CTATE	OF	CALL	<b>F</b> O		
STATE	U٢	CALI	FO	KNIA	٩

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#### J.DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no Certificates of Acceptance applicable to service water heating requirements.

#### K. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be completed by a HERS Rater and provided to the building inspector during construction. The final documents must be created by a HERS Providers registry, but drafts can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Yes	No	Form/Title	Field Inspector	
103			Pass	Fail
$\bigcirc$	۲	NRCV-PLB-21-H High-rise Residential Central Hot Water Distribution HERS Verification		
$\bigcirc$		NRCV-PLB-22-H High-rise Residential Individual Dwelling Unit Hot Water Distribution HERS Verification		

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Registration Date/Time:

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT				
Documentation Author Name: David Hensel, PE	Documentation Author Signature:			
Company:	Signature Date:			
Hensel Consulting Engineers, Inc.	2019-12-28			
Address:	CEA/ HERS Certification Identification (if applicable):			
5857 Owens Ave., 3rd Floor	M32901			
City/State/Zip:	Phone:			
Carlsbad CA 92008	(619) 665-3259			
<ul> <li>of Title 24, Part 1 and Part 6 of the California Code of Regulations.</li> <li>The building design features or system design features identified on this Certificate of Compliance are plans and specifications submitted to the enforcement agency for approval with this building permit a</li> </ul>	es for the building design or system design identified on this Certificate of Compliance conform to the requirements consistent with the information provided on other applicable compliance documents, worksheets, calculations, pplication. h the building permit(s) issued for the building, and made available to the enforcement agency for all applicable			
Responsible Designer Name: Jon Doe, AIA	Responsible Designer Signature:			
Company:	Date Signed:			
Jon Doe Design	2019-12-28			
Address:	License:			
123 Easy St.	123456			
City/State/Zip:	Phone:			
San Diego CA 92000	858-123-4567			

Registration Number:

Registration Date/Time: