HVAC GENERAL SPECIFICATIONS

1. A MAINTENANCE LABEL SHALL BE AFFIXED TO MECHANICAL EQUIPMENT AND A MAINTENANCE MANUAL SHALL BE PROVIDED TO THE OWNER PER STANDARDS.

2. CONCEALED SPACES, CIRCULATION AIR

   INSULATED WIRES, PLASTIC TUBING OR PIPING, PIPE INSULATION, CONDENSATE PAN INSULATION, WOOD, PVC, ABS AND OTHER PLASTICS) TO BE IN CONCEALED SPACES USED TO CONVEY CIRCULATING AIR SUPPLY. WHEN COMBUSTIBLE MATERIAL IS TO BE LOCATED IN THE ABOVE SPACES, IT SHALL BE APPROVED FOR SUCH INSULATION.

3. INSULATION OF DUCTS

   PORTIONS OF SUPPLY–AIR AND RETURN–AIR DUCTS CONVEYING HEATED OR COOLED AIR LOCATED IN ONE OR MORE OF THE FOLLOWING SPACES SHALL BE INSULATED TO A MINIMUM INSTALLED LEVEL OF R–8:

   1. OUTDOORS; OR
   2. IN A SPACE BETWEEN THE ROOF AND AN INSULATED CEILING; OR
   3. IN A SPACE DIRECTLY UNDER A ROOF WITH FIXED VENTS OR OPENINGS TO THE OUTSIDE OR UNCONDITIONED SPACES; OR
   4. IN AN UNCONDITIONED CRAWL SPACE; OR
   5. IN OTHER UNCONDITIONED SPACES.

   PORTIONS OF SUPPLY–AIR DUCTS THAT ARE NOT IN ONE OF THESE SPACES, INCLUDING DUCTS BURIED IN CONCRETE SLAB, SHALL BE INSULATED TO A MINIMUM INSTALLED LEVEL OF R–4.2 OR BE ENCLOSED IN DIRECTLY CONDITIONED SPACE.

4. SEALING

   TRANSVERSE SUPPLY DUCTS, TAPED OR SEALED WITH MASTIC EXCEPT FOR DUCTS EXPOSED TO CONDITIONED SPACE, WHERE DUCT STATIC PRESSURE EXCEEDS 3/4" WATER, LONGTITUDINAL JOINTS, TAPED OR SEALED WITH MASTIC.

5. INSPECTION

   INSPECTION TO BE MADE AND DUCTWORK APPROVED BEFORE COVERING WITH INSULATION.

6. PIPE INSULATION

   SPACE–CONDITIONING AND SERVICE WATER–HEATING SYSTEM SHALL BE INSULATED IN ACCORDANCE WITH THE FOLLOWING TABLE:

PIPE INSULATION THICKNESS

FLUID TEMP. RANGE (°F)	CONDUCTIVITY RANGE (BTU–"/HR PER SQFT/°F)	INSULATION MEAN RATING TEMP. (°F)	NOMINAL PIPE DIAMETER (")				
			<1	1 TO <1.5	1.5 TO <4	4 TO <8	8 AND LARGER
			INSULATION THICKNESS REQUIRED (")				
SPACE HEATING, HOT WATER SYSTEMS AND SERVICE WATER HEATING SYSTEMS							
350<	0.32–0.34	250	4.5	5.0	5.0	5.0	5.0
251–350	0.29–0.31	200	3.0	4.0	4.5	4.5	4.5
201–250	0.27–0.30	150	2.5	2.5	2.5	3.0	3.0
141–200	0.25–0.29	125	1.5	1.5	2.0	2.0	2.0
105–140	0.22–0.28	100	1.0	1.5	1.5	1.5	1.5
SPACE COOLING SYSTEMS (CHILLED WATER, REFRIGERANT AND BRINE)							
40–60	0.21–0.27	75	NONRES 0.5	RES 0.75	NONRES 0.5	RES 0.75	1.0 1.0
<40	0.20–0.26	50	1.0	1.5	1.5	1.5	1.5

   EXCEPTIONS: THE FOLLOWING PIPING DOES NOT HAVE TO BE THERMALLY INSULATED: (1) FACTORY–INSTALLED PIPING WITHIN SPACE CONDITIONING EQUIPMENT; (2) PIPING THAT CONVEYS FLUIDS THAT HAVE A DESIGN OPERATING TEMPERATURE RANGE BETWEEN 55 DEGREES AND 105 DEGREES FAHRENHEIT; (3) GAS PIPING; (4) COLD DOMESTIC WATER PIPING; (5) DRAINS, VENTS, AND WASTE PIPING.

7. TEMPERATURE CONTROLS

   EACH HVAC SYSTEM SHALL BE PROVIDED WITH AT LEAST ONE AUTOMATIC TEMPERATURE CONTROL DEVICE FOR THE REGULATION OF TEMPERATURE THESE AUTOMATIC TEMPERATURE CONTROL DEVICES SHALL BE CAPABLE OF BEING SET TO MAINTAIN SPACE TEMPERATURE SET POINTS FROM 55 DEGREES F TO 85 DEGREES F, SHALL BE CAPABLE OF OPERATING THE SYSTEM HEATING AND/OR COOLING IN SEQUENCE.

   EXCEPT AS ALLOWED, THESE CONTROLS SHALL BE ADJUSTABLE TO PROVIDE A DEAD BAND OF 5 DEGREES F BETWEEN FULL HEATING AND FULL COOLING. CONTROLS SHALL HAVE THE CAPABILITY OF TERMINATING ALL HEATING AT A TEMPERATURE NO MORE THAN 70 DEGREES F AND OF TERMINATING ALL COOLING AT A TEMPERATURE NOT LESS THAN 78 DEGREES F.

HVAC GENERAL NOTES

1. ALL WORK SHALL CONFORM TO 2019 CALIFORNIA MECHANICAL CODE, CALIFORNIA BUILDING CODE AND ALL OTHER APPLICABLE CITY CODES AND REGULATIONS, INCLUDING CALIFORNIA ENERGY CONSERVATION STANDARDS.
2. ALL HVAC EQUIPMENT SHALL BE CERTIFIED BY THE CALIFORNIA ENERGY COMMISSION TO COMPLY WITH LOCAL EFFICIENCY STANDARDS.
3. THE CONTRACTOR SHALL PAY FOR ALL PERMITS AND FEES.
4. CONTROL LOW VOLTAGE WIRING BY MECHANICAL CONTRACTOR AND CONDUIT BY ELECTRICAL CONTRACTOR.
5. CONDENSATE DRAIN PIPING AND FINAL CONNECTION TO UNIT BY PLUMBING CONTRACTOR.
6. G.C. TO VERIFY CURRENT ELECTRICAL POWER CONDITION IN FIELD BEFORE PURCHASING ANY MECHANICAL EQUIPMENT.
7. CONTRACTOR TO VERIFY MECHANICAL HEATING EQUIPMENT TO BE CONFORM TO LOCAL EPA STANDARD BEFORE PURCHASING EQUIPMENT.
8. ACCURATE AS–BUILT DRAWINGS SHALL BE MADE DURING CONSTRUCTION AND SUBMITTED FOR APPROVAL UPON COMPLETION OF INSTALLATION.
9. THE CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR FOR SIZE AND LOCATION OF DUCTWORK ROOF OPENINGS AND WITH ELECTRICAL CONTRACTOR FOR ELECTRICAL REQUIREMENTS OF ALL MECHANICAL EQUIPMENT AND ARCHITECTURAL DRAWINGS FOR AIR DISTRIBUTION LOCATION.
10. THE CONTRACTOR SHALL SUBMIT BID BASED ON THE DRAWINGS AND ALTERNATE FOR COST SAVING. THESE DRAWINGS ARE FOR BIDDING PURPOSES.
11. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR, EQUIPMENT, TRANSPORTATION AND SERVICES NECESSARY FOR COMPLETION OF THE WORK. ALL MATERIALS AND WORK SHALL COMPLY WITH APPLICABLE CODES AND GOVERNING REGULATIONS AND MEET THE APPROVAL OF THE LOCAL JURISDICTION.
12. TAKE ALL PRECAUTIONS NECESSARY TO PROTECT THE MATERIALS BEFORE, DURING AND AFTER INSTALLATION. IN THE EVENT OF DAMAGE, IMMEDIATELY REPAIR ALL DAMAGED AND DEFECTIVE WORK TO THE APPROVAL OF THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.
13. THESE DRAWINGS ARE DIAGRAMMATIC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH ALL OTHER TRADES. THIS INCLUDES COORDINATING THE LOCATION AND SIZE OF ALL OPENINGS, LOCATIONS OF EQUIPMENT PADS AND CHANGES OF ELEVATIONS OF DUCTWORK, PIPING AND OTHER EQUIPMENT.
14. ANY MATERIAL, ARTICLE OR PIECE OF EQUIPMENT OTHER THAN THAT INDICATED SHALL NOT BE USED UNLESS APPROVED IN WRITING BY THE ENGINEER AND ANY CHANGES IN MECHANICAL, ELECTRICAL AND/OR OTHER SYSTEMS REQUIRED DUE TO SUCH SUBSTITUTION SHALL BE THE RESPONSIBILITY OF THE HVAC CONTRACTOR; AND AT NO ADDITIONAL COST TO THE OWNER.
15. THE CONTRACTOR SHALL VISIT SITE PRIOR TO BIDDING TO VERIFY LOCATIONS AND SIZES OF ALL EXISTING EQUIPMENT AND INFORM THE ARCHITECT AND ENGINEER OF ANY DISCREPANCIES.
16. COORDINATE ENTIRE INSTALLATION OF THE H.V.A.C. SYSTEM WITH THE WORK OF ALL OTHER TRADES PRIOR TO ANY FABRICATION OR INSTALLATION. PROVIDE ALL FITTINGS, OFFSETS, AND TRANSITIONS AS REQUIRED FOR A COMPLETE WORKABLE INSTALLATION.
17. CONTRACTOR SHALL SUBMIT A COMPLETE BALANCE REPORT FOR APPROVAL. SYSTEMS AIR BALANCE SHALL BE PERFORMED BY AN INDEPENDENT AIR BALANCE CONSULTANT. A CERTIFIED AABC OR NEBB. THE REPORT SHALL INCLUDE THE FOLLOWING:
    a. AIR QUANTITIES AT EACH REGISTER.
    b. STATIC PRESSURE READINGS AT INLET AND DISCHARGE OF EACH AIR HANDLING SYSTEM AND AT INLET OF EACH EXHAUST AIR SYSTEM.
    c. COOLING AND HEATING SUPPLY AND RETURN AIR TEMPERATURES AT EACH AIR CONDITIONING UNIT.
18. WARRANTIES; 1–YEAR WARRANTY FOR EQUIPMENT, 5–YEAR COMPRESSORS. REFER TO CONSTRUCTION CONTRACT FOR OTHER APPLICABLE WARRANTIES.
19. EQUIPMENT SPECIFICATION AND INTERLOCK DIAGRAM SHALL BE SUBMITTED FOR APPROVAL PRIOR TO PURCHASE OF EQUIPMENT FOR INSTALLATION.
20. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL FITTINGS, TRANSITIONS, DAMPERS, VALVES AND OTHER DEVICES REQUIRED FOR A COMPLETE WORKABLE INSTALLATION.
21. ALL HVAC AND FAN UNITS SHOWN ON THE PLAN IS RECOMMENDED. FINAL MAKE AND MODEL OF THE UNITS WILL BE DETERMINED BY THE OWNER/MECHANICAL CONTRACTOR WITH AN APPROVAL FROM THE MECHANICAL ENGINEER.
22. THE HVAC SYSTEM AND COMPONENTS SHALL BE TESTED, ADJUSTED AND BALANCED IN ACCORDANCE WITH AABC'S NATIONAL STANDARDS FOR TOTAL SYSTEM BALANCE (6TH EDITION).
23. PROVIDE FILTER FOR AIR CONDITIONING AND/OR AIR SIDE UNITS AS REQUIRED PER ASHRAE AND MECHANICAL CODE.
24. THERMOSTAT SHALL BE 24 VOLT, ONE STAGE HEATING AND ONE OR TWO STAGE COOLING WITH MATCHING SUBBASE AND TAMPER PROOF COVER.
25. CONDENSATE PIPING SHALL BE SIZED IN ACCORDANCE WITH CMC TABLE 310.3
26. CONDENSATE WASTE SHALL CONNECT INDIRECTLY TO THE DRAINAGE SYSTEM THROUGH AN AIR GAP OR AIR BREAK TO PROPERLY TRAPPED AND VENTED RECEPTORS, DRY WELLS, OR THE TAILPIECE OF A PLUMBING FIXTURE.
27. WHERE CONDENSATE WASTE FROM AIR CONDITIONING COILS DISCHARGES BY DIRECT CONNECTION TO A LAVATORY TAILPIECE OR TO AN APPROVED ACCESSIBLE INLET ON A BATHTUB OVERFLOW, THE CONNECTION SHALL BE LOCATED IN AN AREA CONTROLLED BY THE SAME PERSON CONTROLLING THE AIR–CONDITIONED SPACE.
28. THE REFRIGERATION EQUIPMENT REFRIGERANT SERVICE PORTS LOCATED OUTDOORS SHALL BE FITTED WITH LOCKING TYPE TAMPER RESISTANT CAPS OR SHALL BE PROTECTED FROM UNAUTHORIZED ACCESS BY A MEANS ACCEPTABLE TO THE ENFORCING AGENCY.
29. PROVIDE BACK–DRAFT DAMPER FOR ALL EXHAUST AIR DUCT UNLESS OTHERWISE NOTED PER CODE.
30. EXHAUST TERMINATION SHALL BE MINIMUM 10'–0" AWAY OR 3'–0" ABOVE FROM ANY FRESH AIR INTAKE, OPERABLE WINDOWS, DOORS AND 10'–0" MINIMUM ABOVE GRADE.
31. PROVIDE ALL FRESH AIR INTAKES AND EXHAUST OUTLETS WITH HOOD, 1/2" GALVANIZED MESH SCREENS AND OUTSIDE AIR BACK–DRAFT DAMPERS.

SYMBOLS AND ABBREVIATIONS

SA		SUPPLY AIR PLENUM CROSS–SECTION
RA		RETURN AIR PLENUM CROSS–SECTION
CD		SUPPLY DIFFUSER
RAG		RETURN AIR GRILLE
EAG		EXHAUST AIR GRILLE
SWS		SIDE WALL/DUCT MOUNTED SUPPLY REGISTER
SWR		SIDE WALL RETURN GRILLE
T		ROOM THERMOSTAT
S		ROOM SENSOR
CFM		CUBIC FEET PER MINUTE
EA		EXHAUST AIR
EF		ROOF MOUNTED EXHAUST FAN
ESP		EXTERNAL STATIC PRESSURE
EXIST	(E)	EXISTING
FD		FIRE DAMPER
FLA		FULL LOAD AMPERES
HZ		HERTZ
HP		HORSEPOWER
MVD		MANUAL VOLUME DAMPER
NEW	(N)	NEW
OSA		OUTSIDE SUPPLY AIR
RLA		RATED LOAD AMPERES
RA		RETURN AIR
SA		SUPPLY AIR
SD		SMOKE DETECTOR
SP		STATIC PRESSURE
TYP		TYPICAL
U/C		UNDERCUT DOOR
U.T.R.		UP THRU ROOF
V		VOLT
VTR		VENT THRU ROOF

NOTE:
REFER TO PLAN SHEETS FOR ANY ADDITIONAL LEGEND, SYMBOLS AND RELATED ABBREVIATIONS.

MINI SPLIT HVAC UNIT SCHEDULE

TYPE	MARK	QTY	TON	MAKE AND MODEL	COOLING CAPACITY BTUH	HEATING CAPACITY BTUH	(UNIT) WEIGHT	POWER SUPPLY				UNIT DIMENSIONS			SEER
							LBS.	VOLT	PH	Hz	MCA/MOCP	UNIT HEIGHT (INCHES)	LENGTH (INCHES)	WIDTH (INCHES)	
WALL MOUNTED DUCTLESS UNIT SPLIT SYSTEM	WM 1 / HP 1	1	1	WM: MITSUBISHI PKA–A12HA7 HP: MITSUBISHI PUZ–A12NKA7	12,000	18,000	29 93	208/230	1	60	14/15	11–5/8 24–13/16	9–13/16 11–3/16	35–3/8 31–13/16	20.8

NOTES:
1. SPLIT SYSTEM: INSTALL OUTDOOR UNIT WITH DISCONNECT SWITCH AND ALL WEATHERPROOF GFCI.
2. THERMOSTATS INSTALLED AT 48"AFF.
3. EXTEND CONDENSATE DRAIN DIRECTLY TO LAV TAILPIECE OR A LOCAL CODE APPROVED RECEPTOR, SEE PLUMBING PLAN.

EXHAUST FAN SCHEDULE

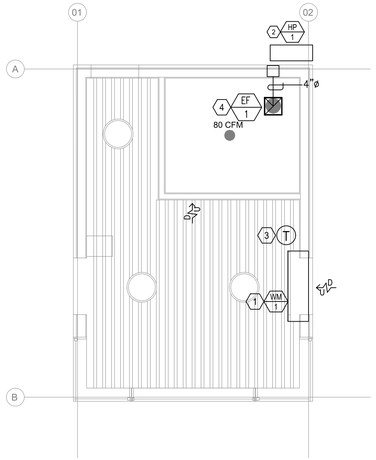
UNIT MARK	EQUIPMENT	CFM	S.P. (W.G.)	RPM	HP	AMPS	MOTOR ELEC	SONES (DB)	WT (LBS)	MANUFACTURER & MODEL NO.	REMARKS
EF 1	RESTROOM EXH FAN	80	0.1"	–	5.8W	0.1	120/1	0.3	12.5	BROAN XB80	1 2

1. INSTALLED BY GENERAL CONTRACTOR.
2. ELECTRICALLY INTERCLOCKED WITH LIGHT SWITCH WITH MANUAL OVER–RIDE SWITCH.

OUTDOOR AIR VENTILATION

1. CALCULATIONS BASED ON CALCULATION 2019 BUILDING ENERGY EFFICIENCY STANDARDS(CEC)
2. OUTDOOR AIR CALCULATION:

   AREA OUTDOOR AIR RATE: 0.15 CFM/SF X 189 = 28 CFM



MECHANICAL PLAN

SCALE: 1/4"=1'–0"

(#) NOTES:

1. WALL MOUNTED INDOOR UNIT.
2. OUTDOOR HEAT PUMP UNIT LOCATED AT REAR OF BUILDING.
3. INSTALL PROGRAMMABLE THERMOSTAT 48"AFF ON WALL.
4. RESTROOM EXHAUST TERMINATES ON WALL. EXHAUST SHALL TERMINATE NOT LESS THAN 3 FEET FROM A PROPERTY LINE, 10 FEET FROM A FORCED AIR INLET, AND 3 FEET FROM OPENINGS INTO THE BUILDING.

CDI Circa Domini International
Programming - Planning - Architecture - Interiors - Engineering
16520 Bake Parkway, Suite 100, Irvine, CA 92618
◊ Telephone: (949) 336-6636

MONARCH BAY

MONARCH BAY DRIVE,
DANA POINT, CA 92629

MECHANICAL NOTES & SCHEDULES

REVISION

SEAL

REGISTERED PROFESSIONAL ENGINEER
CHUNGSUN KANG
M 37036
Exp. 9-30-20
MECHANICAL
STATE OF CALIFORNIA

DATE	JOB NO
09–16–20	–
SCALE	DRAWN BY
N.T.S.	–

DRAWING NO.

M-0.0

STATE OF CALIFORNIA
Envelope Component Approach
NRCC-ENV-E — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ENV-E
Project Name:	Monarch Bay	Report Page: (Page 1 of 10)
Project Address:	Monarch Bay Drive	Date Prepared: 9/16/2020

This document is used to demonstrate compliance with mandatory requirements in §110.8(g) and §120.7(b) for newly constructed buildings, and §141.0(b)1 for alterations, related to roof, wall and floor assemblies. It is also used to demonstrate compliance with prescriptive requirements in §140.3 for newly constructed buildings, and §141.0 for additions and alterations, related to roof, wall, floor, door, fenestration and daylighting requirements.

A. GENERAL INFORMATION

01	Project Location (city)	Dana Point	05	# of Stories (Habitable Above Grade)	1
02	Zipcode	92629	06	Total Conditioned Floor Area (ft²)	189
03	Climate Zone	6	07	Total Unconditioned Floor Area (ft²)	0
04	Occupancy Types Within Project: (select all that apply): If one occupancy constitutes >= 80% of the conditioned floor area, the entire building envelope may be designed to comply with the provisions of that occupancy per §100.0(f).		08	☐ Project includes unconditioned enclosed space(s) > 5,000 ft² under a roof with a ceiling height of at least 15 ft.[1]	
☒ All Nonresidential, including Relocatable Public School Building certified for use in one climate zone Occupancy: A / B / E / F / H / M / S / U		☐ Relocatable Public School Building for use in all climate zones Occupancy: E		☐ High-Rise Residential Occupancy: R-2 / R-3	☐ Hotel/Motel Guest Rooms Occupancy: R-1

[1] *FOOTNOTE: Enclosed spcases > 5,000 ft² directly under roof with ceiling height > 15 ft in climate zones 2 through 15 are required to meet the minimum daylighting requirements defined in §140.3(c). Compliance with §140.3(c) is documented in Table L. This is the only prescriptive requirement which applies to unconditioned spaces.*

B. PROJECT SCOPE

This table specifies project envelope components within the permit application demonstrating compliance using the prescriptive paths outlined in §140.3, and §141.0(a)1 and §141.0(b)1 and 2 for additions and alterations.

My project consists of (check all that apply)		Component Types					
01		02					
☒	New Construction or Newly Conditioned Space	☒	Roof	☒	Walls	☒	Exterior Doors
☐	One or more enclosed spaces > 5,000 ft² directly under roof with ceiling height > 15ft	☐		☐	Floors	☒	Fenestration/ Glazing Doors[1]
☐	Addition of conditioned space	☐	Roof	☐	Walls	☐	Exterior Doors
☐	One or more enclosed spaces > 5,000 ft² directly under roof with ceiling height > 15ft	☐		☐	Floors	☐	Fenestration/ Glazing Doors[1]
☐	Alteration of conditioned space	☐	Roof Assembly	☐	Walls		Exterior Doors NA. for Alts.
☐	One or more enclosed spaces > 5,000 ft² directly under roof with ceiling height > 15ft and lighting system installed for the first time	☐	Roofing Material	☐	Floors	☐	Fenestration/ Glazing Doors

[1] *FOOTNOTE: Doors that are more than one-half glass in area are considered Glazed Doors and should be documented on table K with fenestration.*

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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					Fenestration	Daylighting Spaces > 5,000ft²	Compliance Results
Roof Assembly	Roofing Materials	Walls	Floors	Doors			
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	Yes		Yes	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 includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. ROOF ASSEMBLY SCHEDULE

This table demonstrates compliance for prescriptive roof assembly requirements in §140.3(a)1B for new construction or additions, or §141.0(b)2Biii for alterations,

01	Indicate roof types included in the project:	☒ Framed	☐ SIPS	☐ Span Deck & Concrete	☐ Metal Panels	☐ Metal Building

Framed Roof Assemblies

01	02	03	04	05	06
	☒	Include Framed Roof Assemblies in Area-Weighted Average U-factor Calculation[1]			
Tag/Plan Detail ID	Name/Description	Status	Exception to Roof Insulation Requirements in §141.0(b)2Biii (Alts. Only)		Occupancy Type
R-30 Roof	Roof	New			Nonresidential/ Relocatable 1 CZ

F. ROOF ASSEMBLY SCHEDULE

07	08	09	10	11	12	13	14	15		16
Tag/Plan Detail ID	How Design U-factor was determined	Roof Type & Frame Material	Frame Spacing Depth	Cavity Insulation per Design	Continuous Insulation per Design	Thermal Performance Unit	Required Thermal Performance	U-factor per Design		Net Area[3] ft²
								per JA4		
Roof	JA4 Tables	Wood		30.0	0.0	U-factor	0.049	per Software/ Other	0.036	189

[1] *FOOTNOTES: If any individual assembly is non-compliant, assemblies may show compliance using an area-weighted calculation. Metal building roofs may not be combined with other roof types. The area-weighted compliance option is not available for alterations demonstrating compliance with R-values in Table 141.0-C.*

[2] *If "R-value" is shown in cell 13 as the Thermal Performance Unit, the R-value shown here is for continuous insulation per Table 141.0-C.*

[3] *Roof area minus any fenestration/ skylight area*

Structural Insulated Panels (SIPS) Roof/Ceiling Assemblies
This section does not apply to this project.

Structural Insulated Panels (SIPS) Roof/Ceiling Assemblies
This section does not apply to this project.

Metal Panel Assemblies
This section does not apply to this project.

Metal Building Roof Assemblies
This section does not apply to this project.

Area-Weighted Average U-factor Compliance Calculation for Framed/ SIPs/ Span Deck & Concrete/ Metal Panel Roofs

01	02	03	04	05
Roof Type	Total Area of Roof Type (ft²)	Area-weighted U-factor for Roof Type		Compliance Results Using Area-Weighted Calculation Option
		Required	Designed	
Framed	189	0.049	0.036	
Total for all Roof Types:	**189**	**0.049**	**0.036**	**COMPLIES**

Area-Weighted Average U-factor Compliance Calculation for Metal Building Roof
This section does not apply to this project.

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G. RATED ROOFING MATERIAL (COOL ROOF)

This table demonstrates compliance with prescriptive roof material requirements in §140.3(a)1A for new construction or additions, or §141.0(b)2B for alterations.

01	02	03	04	05	06	07	08		09		10
Tag/Plan Detail ID	Name/Description	Status	Occupancy Type	Roof Slope	Roof Material	Compliance Method	Required Minimum Material Performance		Designed Material Performance		U-factor of Assembly
R-30 Roof	Roof	New	Nonresidential/ Relocatable 1 CZ	<=2:12 (Low)	To Be Determined	Solar Reflectance (Aged)/ Emittance	Reflectance	0.63	Reflectance	0.63	
							Emittance	0.75	Emittance	0.75	
							SRI		SRI		

H. WALL ASSEMBLY SCHEDULE

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

01	Indicate wall types included in the project:[1]	☒ Framed	☐ Mass (new only)	☐ Concrete Sandwich Panel (new only)	☐ SIPS	☐ ICF (new only)
		☐ 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 Walls[1]
02	☒	Include Wood Framed Walls in Area-Weighted Average U-factor Calculation[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 Design		Net Area[3] ft²
									per JA4		
Front Exterior Wall	Nonresidential/ Relocatable 1 CZ: New	JA4 Tables	Exterior wall	Wood 1/2" gyp 16" OC		19.0	U-factor	0.11	per Software/ Other	0.0308	88

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H. WALL ASSEMBLY SCHEDULE

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 Design		Net Area[3] ft²
									per JA4		
Rear Exterior Wall	Nonresidential/ Relocatable 1 CZ: New	JA4 Tables	Exterior wall	Wood 1/2" gyp 16" OC		19.0	U-factor	0.11	per Software/ Other	0.0308	210
Left Exterior Wall	Nonresidential/ Relocatable 1 CZ: New	JA4 Tables	Exterior wall	Wood 1/2" gyp 16" OC		19.0	U-factor	0.11	per Software/ Other	0.0308	261
Right Exterior Wall	Nonresidential/ Relocatable 1 CZ: New	JA4 Tables	Exterior wall	Wood 1/2" gyp 16" OC		19.0	U-factor	0.11	per Software/ Other	0.0308	261

[1] *FOOTNOTES: If any individual assembly is non-compliant, assemblies may show compliance using an area-weighted calculation. Metal framed walls may not be combined with other wall types. Wood framed walls are combined with SIPS, spandrel & curtain, metal panel and straw bale wall types. The area-weighted compliance option is not available for alterations demonstrating compliance with R-values in Table 141.0-C.*

[2] *If "R-value" is shown in cell 10 as the Thermal Performance Unit, the R-value shown here is for cavity insulation per §141.0(b)1B.*

[3] *Wall area minus any fenestration area*

Area-Weighted Average U-factor Compliance Calculation for Wood Framed/ SIPs/ Spandrel/ Curtain/ Metal Panel/ Straw Bale Wall Types

01	02	03	04	05
Wall Type	Total Area of Wall Type (ft²)	Area-weighted U-factor for Wall Type		Compliance Results Using Area-Weighted Calculation Option
		Required	Designed	
Framed	820	0.11	0.0308	
Total for all Wall Types:	820	0.11	0.0308	COMPLIES

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I. FLOOR ASSEMBLY SCHEDULE

This section does not apply to this project.

J. EXTERIOR DOOR SCHEDULE

This table demonstrates compliance with prescriptive exterior door requirements in §140.3(a)7 for new construction or additions. Doors which are being replaced (alterations) do not need to be documented in this table because there are no Title 24, Part 6 requirements that apply. Exterior doors separate conditioned space from unconditioned space or from ambient air. Doors that are more than one-half glass in area are considered Glazed Doors and should be documented on Table K with fenestration per Table B.

01	02	03	04	05	06	07	
Tag/Plan Detail ID	Name/Description	Occupancy Type	Door Type	Door Insulation	Maximum Allowed U-factor	U-factor per Design	
	Metal Door	Nonresidential/ Relocatable 1 CZ	Swinging	Any other wood door	0.7	per JA4	0.7
	Wood Door	Nonresidential/ Relocatable 1 CZ	Swinging	Any other wood door	0.7	per JA4	0.3030

K. FENESTRATION AND GLAZED DOOR SCHEDULE

This table demonstrates compliance with prescriptive fenestration requirements in §140.3(a)5 for new constructions or additions, or §140.1(b)2A for alterations. Exterior doors that are more than one-half glass in area are considered Glazed Doors and should be documented on this table with fenestration.

01	Indicate fenestration types included in the project:[1]	☐ Vertical (alterations)	☒ Vertical (new)	☐ Skylights	☐ Glazed Doors (new only)

[1] *FOOTNOTES: Floor 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.*

Vertical Fenestration and Glazed Doors- Total Building & west Facing area (New Construction & Additions Only)

01	02	03	04	05
Elevation Item Tag/ Description	Orientation (Azimuth)[1]	Gross Exterior Wall Area[2]	Display Perimeter Length[2]	Vertical Fenestration Area per Design[3]
North	North Facing	240	0	9
East	East Facing	336	0	54
South	South Facing	240	0	152
West	West Facing	336	0	54

06	Maximum Allowed Vertical Fenestration (ft²)- All Orientations	435.6	07	Total Vertical Fenestration (ft²) per design- All Orientations: 269
08	Maximum Allowed Vertical Fenestration (ft²)- West Facing	134.4	09	Total Vertical Fenestration (ft²) per design- West Facing: 54

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CDI Circa Domini International
Programing - Planning - Architecture - Interiors - Engineering
16520 Bake Parkway, Suite 100, Irvine, CA 92618
◊ Telephone: (949) 336-6636

MONARCH BAY
MONARCH BAY DRIVE,
DANA POINT, CA 92629

MECHANICAL
TITLE 24

REVISION

SEAL
REGISTERED PROFESSIONAL ENGINEER
CHUNGSUN KANG
M 37036
Exp. 9-30-20
MECHANICAL
STATE OF CALIFORNIA

DATE	JOB NO
09-16-20	–
SCALE	DRAWN BY
	–

DRAWING NO.
M-1.0

STATE OF CALIFORNIA
Envelope Component Approach
NRCC-ENV-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-ENV-E
Project Name:	Monarch Bay	Report Page:	(Page 7 of 10)
Project Address:	Monarch Bay Drive	Date Prepared:	9/16/2020

K. FENESTRATION AND GLAZED DOOR SCHEDULE

Vertical Fenestration and Glazed Doors- Total Building & west Facing area (New Construction & Additions Only)

01	02	03	04	05
Elevation Item Tag/ Description	Orientation (Azimuth)[1]	Gross Exterior Wall Area[2]	Display Perimeter Length[3]	Vertical Fenestration Area per Design[3]

[1]*FOOTNOTES: Orientation between 226 deg and 315 deg are considered "West Facing". A diagram has been provided in the Nonresidential Compliance Manual for visual reference.*

[2]*Do not include demising walls per §140.3(a)5 .*

[3] *Includes glazed door fenestration area .*

Vertical Fenestration- U-factor, Solar Heat Gain Coefficient (RSHGC/ SHGC), Visible Transmittance (VT)

01	☒	Calculate Area-Weighted Average U-factor for Vertical Fenestration[1]
02	☒	Calculate Area-Weighted Average (R)SHGC for Vertical Fenestration[1]
03	☒	Calculate Area-Weighted Average VT for Vertical Fenestration[1]

Vertical Fenestration- U-factor, Solar Heat Gain Coefficient (RSHGC/ SHGC), Visible Transmittance (VT)

04	05	06	07	08	09	10	11	12	13
Tag/Plan Detail ID	Fenestration Type	Occupancy & Status	(R)SHGC Compliance Method	VT Compliance Method	Calculation Method for Performance Values per Design[2]	Product Performance Unit	Required Product Performance	Product Performance per Design	Area ft[2]
Window	Fixed window	Nonresidential/ Relocatable 1 CZ : Alt. (Adding New > 50ft2)	Table 140.3-B/C/D	Table 140.3-B/C/D	NFRC Certified	U-factor (max)	0.36	0.36	152
					☐ Overhang used for RSHGC	(R)SHGC (max)	0.25	0.25	
						VT (min)	0.42	0.5	
Window	Fixed window	Nonresidential/ Relocatable 1 CZ : Alt. (Adding New > 50ft2)	Table 140.3-B/C/D	Table 140.3-B/C/D	NFRC Certified	U-factor (max)	0.36	0.36	9
					☐ Overhang used for RSHGC	(R)SHGC (max)	0.25	0.25	
						VT (min)	0.42	0.5	
Window	Fixed window	Nonresidential/ Relocatable 1 CZ : Alt. (Adding New > 50ft2)	Table 140.3-B/C/D	Table 140.3-B/C/D	NFRC Certified	U-factor (max)	0.36	0.36	54
					☐ Overhang used for RSHGC	(R)SHGC (max)	0.25	0.25	
						VT (min)	0.42	0.5	

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

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STATE OF CALIFORNIA
Envelope Component Approach
NRCC-ENV-E
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K. FENESTRATION AND GLAZED DOOR SCHEDULE

Vertical Fenestration- U-factor, Solar Heat Gain Coefficient (RSHGC/ SHGC), Visible Transmittance (VT)

04	05	06	07	08	09	10	11	12	13
Tag/Plan Detail ID	Fenestration Type	Occupancy & Status	(R)SHGC Compliance Method	VT Compliance Method	Calculation Method for Performance Values per Design[2]	Product Performance Unit	Required Product Performance	Product Performance per Design	Area ft[2]
Window	Fixed window	Nonresidential/ Relocatable 1 CZ : Alt. (Adding New > 50ft2)	Table 140.3-B/C/D	Table 140.3-B/C/D	NFRC Certified	U-factor (max)	0.36	0.36	54
					☐ Overhang used for RSHGC	(R)SHGC (max)	0.25	0.25	
						VT (min)	0.42	0.5	

22	Total Skylight Area using NA6 Default:[2]		
20	Total Glazed Door Area using NA6 Default:[2]		

Area-Weighted Average U-factor, SHGC, VT Compliance Calculation for Vertical Fenestration And Glazed Doors

01	02	03		04
Product Performance Unit	Total Area of Fenestration (ft²)	Area-weighted Calculation for Fenestration		Compliance Results Using Area-Weighted Calculation Option
		Required	Designed	
U-Factor	269	0.36	0.36	COMPLIES
(R)SHGC	269	0.25	0.25	COMPLIES
VT				

L. DAYLIGHT IN LARGE ENCLOSED SPACES

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: 2019.1.003 Schema Version: rev 20190401 | Report Generated: 2020-09-16 15:21:36

STATE OF CALIFORNIA
Envelope Component Approach
NRCC-ENV-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-ENV-E
Project Name:	Monarch Bay	Report Page:	(Page 9 of 10)
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M. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

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 Inspector Pass	Field Inspector Fail
●	○	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 Pass	Field Inspector Fail
●	○	NRCA-ENV-02-F must be submitted for all new, added or altered fenestration.	☐	☐

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

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STATE OF CALIFORNIA
Envelope Component Approach
NRCC-ENV-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-ENV-E
Project Name:	Monarch Bay	Report Page:	(Page 10 of 10)
Project Address:	Monarch Bay Drive	Date Prepared:	9/16/2020

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: DAVID KANG	Documentation Author Signature:
Company: CDI	Signature Date: 2020-09-16
Address: 16520 Bake Parkway, Suite 100	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Irvine CA 92618	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: David Kang	Responsible Designer Signature:
Company: CDI	Date Signed: 2020-09-16
Address: 16520 Bake Parkway, Suite 100	License: M37036
City/State/Zip: Irvine CA 92618	Phone:

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

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STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			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 §140.4, or §141.0(b)2 for alterations.			
Project Name:	Monarch Bay	Report Page:	(Page 1 of 9)
Project Address:	Monarch Bay Drive	Date Prepared:	9/16/2020

A. GENERAL INFORMATION

01	Project Location (city)	Dana Point	04	Total Conditioned Floor Area	189
02	Climate Zone	6	05	Total Unconditioned Floor Area	0
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Grade)	1
☐ Office (B)		☐ Retail (M)	☐ Non-refrigerated Warehouse (S)		
☐ Hotel/ Motel Guest Rooms (R-1)		☐ School (E)	☐ Healthcare Facility (I)		
☐ High-Rise Residential (R-2/R-3)		☐ Relocatable Class Bldg (E)	☒ Other (write in)		See Table J

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 §140.4, or §141.0(b)2 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	☐ System Piping	☒ Fan Systems
☒ Mechanical Controls (existing to remain, altered or new)	☐ Cooling Towers	☐ Ductwork (existing to remain, altered or new)
	☐ Chillers	☒ Ventilation
	☐ Boilers	☐ Zonal Systems/ Terminal Boxes

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance | Report Version: 2019.1.003 Schema Version: rev 20190401 | Report Generated: 2020-09-16 15:21:36

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Monarch Bay	Report Page:	(Page 2 of 9)
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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		07		08	09
System Summary §110.1, §110.2, §140.4	AND	Pumps §140.4(k)	AND	Fans/ Economizers §140.4(c), §140.4(e)	AND	System Controls §110.2, §120.2, §140.4(f)	AND	Ventilation §120.1	AND	Terminal Box Controls §140.4(d)	AND	Distribution §120.3, §140.4(l)	AND	Cooling Towers §110.2(e)2	Compliance Results
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See Table M)	
Yes	AND		AND	Yes	AND	Yes	AND	Yes	AND		AND		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.

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

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CDI Circa Domini International
Programing - Planning - Architecture - Interiors - Engineering
16520 Bake Parkway, Suite 100, Irvine, CA 92618
◊ Telephone: (949) 336-6636

MONARCH BAY

MONARCH BAY DRIVE,
DANA POINT, CA 92629

MECHANICAL
TITLE 24

REVISION

SEAL

REGISTERED PROFESSIONAL ENGINEER
CHUNSSUN KANG
M 37036
Exp. 9-30-20
MECHANICAL
STATE OF CALIFORNIA

DATE	JOB NO
09-16-20	-
SCALE	DRAWN BY
	-

DRAWING NO.

M-1.1

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

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

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
Name or Item Tag	Equipment Category per Tables 110.2	Equipment Type per Tables 110.2 & Title 20	Smallest Size Available[1] §140.4(a)	Equipment Sizing per Mechanical Schedule (kBtu/h) §140.4 (a&b)						
				Heating Output[2,3]			Cooling Output[2,3]		Load Calculations[3,4]	
				Per Design (kBtu/h)	Rated (kBtu/h)	Supp. Heating Output (kBtu/h)	Sensible Per Design (kBtu/h)	Rated (kBtu/h)	Total Heating Load (kBtu/h)	Total Sensible Cooling Load (kBtu/h)
HVAC System 1	Unitary Heat Pumps	Air-cooled, split (1phase)	NA: Load Controls	12.49	18	0	11.71	12	21.67	13.73

[1] *FOOTNOTES: 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 §140.4(a). Healthcare facilities are excepted.*

[2] *It 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 §140.4(b).*

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP))

01	02	03	04	05	06	07	08	09
Name or Item Tag	Size Category (Btu/h)	Heating Mode				Cooling Mode		
		Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
HVAC System 1	<65,000		HSPF	8.2	10.2	SEER	14.0	20.8

G. PUMPS

This section does not apply to this project.

H. FAN SYSTEMS & AIR ECONOMIZERS

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

System Name:	HVAC System 1	Economizer:[1]	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume

01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SF	Supply	1	370	BHP	0		
Total System Design Supply Airflow (CFM):			370	Total System Design (B)HP:	0	Maximum System Fan Power (B)HP:	0.35

[1] *FOOTNOTES: Computer room economizers must meet requirements of §140.9(a) and will be documented on the NRCC-PRC-E document.*

[2] *The unit used for HP must be consistent for all fans within a system.*

I. SYSTEM CONTROLS

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

01	02	03	04	05	06	07	08	09
System Name	System Zoning	Conditioned Floor Area Being Served (ft²)	Thermostats §110.2(b) & (c)[1], §120.2(a)or §141.0(b)2E	Shut-Off Controls §120.2(e)	Isolation Zone Controls §120.2(g)	Demand Response §110.12 and §120.2(b)	Supply Air Temp. Reset §140.4(f)	Window Interlocks per §140.4(n)
HVAC System 1	Single zone	<= 25,000 ft²	Setback	Auto Timer Switch	NA: Serves < 25k ft²	NA: PTAC, PTHP, Rm AC, HP	NA: Single Zone	NA: No operable windows

[1] *FOOTNOTES: 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.*

I. SYSTEM CONTROLS

*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 §140.4(d) ; EXCEPTION 1 to §140.4(f)

J. VENTILATION AND INDOOR AIR QUALITY

This table is used to demonstrate compliance with mandatory ventilation requirements in §120.1 and §120.2(e)3B for all nonresidential, high-rise residential and hotel/motel 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 ventilation rates and 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 Nonresidential or Hotel/Motel spaces
	☐	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

04		05			06			07
System Name	HVAC System 1	System Design OA CFM Airflow[3]		28	System Design Transfer Air CFM		0	Air Filtration per §120.1(c) and §141.0(b)2 [2]
								Provided per §120.1(c) (NR and Hotel/Motel))
08	09	10	11	12	13	14	15	16
Space Name ot Item Tag	Mechanical Ventilation Required per §120.1(c)3 [3]				Exh. Vent per §120.1(c)4			DCV or Sensor Controls per §120.1(d)3, §120.1(d)5, and §120.1(e)3 [6]
	Occupancy Type[4]	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM	
ZONE 1	All others	189			28.4	0	0	DCV: NA: Not required per §120.1(d)3
								Occ Sensor: NA: Not required space type
17	Total System Required Min OA CFM				28	18	Ventilation for this System Complies?	Yes

[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 §120.1(c)1A : 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.*

J. VENTILATION AND INDOOR AIR QUALITY

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

[4] *See Standards Tables 120.1-A 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.*

[6] *§120.2(e)3 requires systems serving rooms that are required by §130.1(c) 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 §130.1(c).*

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 section does not apply to this project.

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/

Yes	No	Form/Title	Field Inspector Pass	Field Inspector Fail
●	○	NRCI-MCH-01-E - Must be submitted for all buildings	☐	☐

O. 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, 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/NRCA/

Yes	No	Form/Title	Field Inspector Pass	Field Inspector Fail
●	○	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.	☐	☐
●	○	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".	☐	☐
○	●	NRCA-MCH-04-A - Air Distribution Duct Leakage	☐	☐
○	●	NRCA-MCH-05-A - Air Economizer Controls	☐	☐
○	●	NRCA-MCH-06-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilation (refer to §120.1(c)3) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO_2) concentration setpoints.	☐	☐
○	●	NRCA-MCH-07-A Supply Fan Variable Flow Controls	☐	☐
○	●	NRCA-MCH-08-A Valve Leakage Test	☐	☐
○	●	NRCA-MCH-09-A Supply Water Temperature Reset Controls	☐	☐
○	●	NRCA-MCH-10-A Hydronic System Variable Flow Controls	☐	☐
○	●	NRCA-MCH-11-A Automatic Demand Shed Controls	☐	☐
○	●	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units	☐	☐
○	●	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance	☐	☐
○	●	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".	☐	☐
○	●	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".	☐	☐
○	●	NRCA-MCH-16-A Supply Air Temperature Reset Controls	☐	☐
○	●	NRCA-MCH-17-A Condenser Water Temperature Reset Controls	☐	☐
○	●	NRCA-MCH-18-A Energy Management Control Systems	☐	☐

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

○	●	NRCA-MCH-19-A Occupancy Sensor Controls	☐	☐
○	●	NRCA-MCH-20 Multi-Family Ventilation	☐	☐
○	●	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 final documents must be created by a HERS Provider's 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 Inspector Pass	Field Inspector Fail
○	●	NRCV-MCH-04-H Duct Leakaage Test *NOTE: Must be completed by a HERS Rater*	☐	☐
○	●	NRCV-MCH-24 Enclosure Air Leakaage Worksheet *NOTE: Must be completed by a HERS Rater*	☐	☐
○	●	NRCV-MCH-27 High-rise Resdential *NOTE: Must be completed by a HERS Rater*	☐	☐
○	●	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 Mandatory Measures Note Block	Yes	Plan sheet or construction document location: M-Sheets

CDI Circa Domini International
Programming - Planning - Architecture - Interiors - Engineering
16520 Bake Parkway, Suite 100, Irvine, CA 92618
◊ Telephone: (949) 336-6636

MONARCH BAY
MONARCH BAY DRIVE,
DANA POINT, CA 92629

MECHANICAL
TITLE 24

REVISION

SEAL
REGISTERED PROFESSIONAL ENGINEER
CHUNGSUN KANG
M 37036
Exp. 9-30-20
MECHANICAL
STATE OF CALIFORNIA

DATE	JOB NO
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STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Monarch Bay	Report Page:	(Page 9 of 9)
Project Address:	Monarch Bay Drive	Date Prepared:	9/16/2020

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: DAVID KANG	Documentation Author Signature:
Company: CDI	Signature Date: 2020-09-16
Address: 16520 Bake Parkway, Suite 100	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Irvine CA 92618	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: David Kang	Responsible Designer Signature:
Company: CDI	Date Signed: 2020-09-16
Address: 16520 Bake Parkway, Suite 100	License: M37036
City/State/Zip: Irvine CA 92618	Phone:

STATE OF CALIFORNIA
Domestic Water Heating System
NRCC-PLB-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-PLB-E
Project Name:	Monarch Bay	Report Page:	(Page 3 of 6)
Project Address:	Monarch Bay Drive	Date Prepared:	9/16/2020

F. DOMESTIC HOT WATER EQUIPMENT

This table is used to demonstrate compliance with mandatory equipment requirements in §110.1 and §110.3. For high-rise residential and hotel/motel occupancies, compliance with prescriptive requirements in §150.1(c)8 must also be demonstrated and with §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]
Ariston Insta Hot	Electric Storage	<=30	FHR >=75	0.98	0.93

[1] *FOOTNOTE: 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 Heating Equipment All Occupancies

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

G. DOMESTIC HOT WATER DISTRIBUTION SYSTEM

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 §110.3(c), §120.3, §150.0, §150.1

Mandatory Pipe Insulation All Occupancies

12	☒	For systems serving nonresidential spaces, pipe insulation for the following applications is specified to comply with Table 120.3-A (see below) per §120.3 : • Recirculating system piping, including supply and return piping of the water heater • The first 8 ft of hot and cold outlet piping, including between storage tank and heat trap, for a nonrecirculating storage system • Pipes that are externally heated
13	☒	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service per §120.3(b) and §150.0(j)3

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

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STATE OF CALIFORNIA
Domestic Water Heating System
NRCC-PLB-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-PLB-E
Project Name:	Monarch Bay	Report Page:	(Page 6 of 6)
Project Address:	Monarch Bay Drive	Date Prepared:	9/16/2020

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: DAVID KANG	Documentation Author Signature:
Company: CDI	Signature Date: 2020-09-16
Address: 16520 Bake Parkway, Suite 100	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Irvine CA 92618	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: David Kang	Responsible Designer Signature:
Company: CDI	Date Signed: 2020-09-16
Address: 16520 Bake Parkway, Suite 100	License: M37036
City/State/Zip: Irvine CA 92618	Phone:

STATE OF CALIFORNIA
Domestic Water Heating System
NRCC-PLB-E
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-PLB-E
Project Name:	Monarch Bay	Report Page:	(Page 1 of 6)
Project Address:	Monarch Bay Drive	Date Prepared:	9/16/2020

This document is used to demonstrate compliance for nonresidential occupancies with requirements in §110.1, §110.3, §120.3, and §140.5, and with requirements in §141.0 for additions and alterations, for domestic water heating scopes using the prescriptive path. For high-rise residential and hotel/motel occupancies compliance is demonstrated with requirements in §110.1, §110.3, §120.3, §150.0 and §150.1(c)8, and with requirements §150.2 for additions.

A. GENERAL INFORMATION

01	Project Location (city)	Dana Point	02	Climate Zone	6
03	Occupancy Types Within Project (select all that apply):				
☒ Nonresidential	☐ High-Rise Residential	☐ Hotel/Motel			
☐ State Building	☐ Healthcare Facility	☐ Other (Write In)			

B. PROJECT SCOPE

This table includes domestic water heating systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive paths outlined in §140.5, §150.1(c)8, and §141.0(a), or §141.0(b)2N for additions or alterations. Solar water heating systems are documented on the NRCC-SRA compliance document. Combined hydronic water heating systems are documented on the NRCC-MCH compliance document.

01	02	03		
My project consists of (check all that apply):	System Type[1,2]	System Components		
☒ New system (DHW system being installed for the first time in newly constructed building)	Individual System (serving nonresidential spaces)	☒ Equipment	☒ Distribution	☒ Controls
☐ System Alteration (equipment, distribution or controls)		☐ Equipment	☐ Distribution	☐ Controls

[1] *FOOTNOTES: Point of use water heaters, or other non-central systems used to serve nonresidential spaces, are considered individual systems.*

[2] *Dwelling units refers to hotel/motel guest rooms and units in a high-rise residential occupancy.*

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

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G. DOMESTIC HOT WATER DISTRIBUTION SYSTEM

TABLE 120.3-A PIPE INSULATION THICKNESS

Fluid Temperature Range (°F)	Conductivity Range (Btu-in per hour per ft² per °F)	Insulation Mean Rating Temp (°F)	Nominal Pipe Diameter (in)		
			< 1	1 to < 1.5	1.5 to < 4
			Minimum Insulation Required		
105-140	0.22 - 0.28	100	1.0 in or R-7.7	1.5 in or R-12.5	1.5 in or R-11

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.

	Yes	No	Not Applicable	Requirement
01	☒	☐	☐	Construction documents require manufacturer certification that service water-heating systems are equipped with automatic temperature controls capable of adjusting temperature settings per §110.3(a).
02	☐	☐	☒	Systems with capacity > 167,000 BTUH equipped with outlet temperature controls per §110.3(c)1 unless covered by California Plumbing Code 613.0.
03	☐	☐	☒	Controls for circulating pumps or electrical heat trace systems are capable of automatically turning off the system per §110.3(c)2 unless systems serves healthcare facility.
04	☐	☐	☒	For recirculation systems serving multiple dwelling units, design includes automatic pump controls per §150.1(c)8Bii, or §150.2 for additions or alterations.
05	☐	☐	☒	For recirculation systems serving individual dwelling units, design includes manual on/off controls as specified in Reference Appendix RA4.4.9 per §150.1(c)8.
06	☐	☐	☒	For replacement single heat pump water heaters serving individual dwelling units in climate zone 1-15, design includes communication interface that meets demand responsive control requirements of §110.12(a) per §150.2(b)1Hiii.

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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
Domestic Hot Water Equipment	Distribution Systems	Controls	**Compliance Results**
Table F	Table G	Table H	
Yes	Yes	Yes	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 is includes remarks made by the permit applicant to the Authority Having Jurisdiction.

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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 Pass	Field Inspector Fail
●	○	NRCI-PLB-01-E - Must be submitted for all buildings	☐	☐
○	●	NRCI-PLB-02-E - Must be submitted for high-rise residential and hotel/motel central hot water distribution systems to be recognized for compliance.	☐	☐
○	●	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.	☐	☐

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 Pass	Field Inspector Fail
○	●	NRCV-PLB-21-H High-rise Residential Central Hot Water Distribution HERS Verification	☐	☐
○	●	NRCV-PLB-22-H High-rise Residential Individual Dwelling Unit Hot Water Distribution HERS Verification	☐	☐

Registration Number: | Registration Date/Time: | Registration Provider: Energysoft

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CDI Circa Domini International
Programming - Planning - Architecture - Interiors - Engineering
16520 Bake Parkway, Suite 100, Irvine, CA 92618
◊ Telephone: (949) 336-6636

MONARCH BAY

MONARCH BAY DRIVE,
DANA POINT, CA 92629

MECHANICAL
TITLE 24

REVISION

SEAL

REGISTERED PROFESSIONAL ENGINEER
CHUNGSUN K.ANG
M 37036
Exp. 9-30-20
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STATE OF CALIFORNIA

DATE	JOB NO
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M-1.3

PLUMBING LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
GW GW	GW	WASTE LINE TO GREASE INTERCEPTOR
S OR W	S OR W	SOIL OR WASTE BELOW FLOOR
V	V	VENT
CW	CW	DOMESTIC COLD WATER
HW	HW	DOMESTIC HOT WATER
HWR	HWR	DOMESTIC HOT WATER RETURN
GAS GAS	G	LOW PRESSURE GAS
CD	CD	PRIMARY CONDENSATE DRAIN
T&P	T&P	TEMPERATURE & PRESSURE
WCO	WCO	WALL CLEANOUT
FCO	FCO	FLOOR CLEANOUT
SOV	SOV	SHUT-OFF VALVE
C.V.	C.V.	CHECK VALVE
PRV	PRV	PRESSURE REDUCING VALVE
	SOLENOID VALVE	
VTR	VTR	VENT TO ROOF
POC	POC	POINT OF CONNECTION
(E)	(E)	EXISTING
ABV	ABV	ABOVE
AP	AP	ACCESS PANEL
BEL	BEL	BELOW
CFH	CFH	CUBIC FEET PER HOUR
DN	DN	DOWN
FF	FF	FINISHED FLOOR ELEVATION
FLR	FLR	FLOOR
FTR	FTR	FLUE THRU ROOF
IE	IE	INVERT ELEVATION
NTS	NTS	NOT TO SCALE
W/	W/	WITH

PIPE MATERIAL SCHEDULE

SERVICE:		PIPE MATERIAL: COPPER-TYPE "K"	COPPER-TYPE "L"	COPPER-TYPE "M"	316 SS (WELDED)	SOLVED 80 PVC, DWV ABS, SOLVENT WELD	SCHED 40 BLACK STEEL	CAST IRON SOIL W/ NO-HUB FITTINGS	SCHEDULE 40 GALVANIZED STEEL	REMARKS:
DOMESTIC WATER	INSIDE		○							
	OUTSIDE	○					○			
SANITARY WASTE	INSIDE						○			
	OUTSIDE						○			
SANITARY VENT	CONCEALED						○			
	EXPOSED						○			
INDIRECT WASTE	INSIDE			○						USE COPPER TYPE "M" FOR CONDENSATE
	OUTSIDE						○			
NATURAL GAS	INSIDE						○			
	OUTSIDE						○			

NOTE: ABS AND PVC DRAIN WASTE AND VENT AND ROOF DRAINAGE PIPING IS LIMITED TO NO MORE THAN 2 STORIES.

ENERGY CONSERVATION STANDARDS SPEC.

1. DOMESTIC HOT WATER SHALL BE INSULATED. HOT WATER PIPE INSULATION SHALL HAVE 1" THICK ON ALL HOT WATER PIPING LESS THAN 1" DIAMETER. HOT WATER PIPE INSULATION SHALL BE 1-1/2" THICK ON ALL HOT WATER PIPING 1" IN DIAMETER OR GREATER.
2. TIME CLOCKS TO BE INSTALLED TO CONTROL ANY HOT WATER CIRCULATING PUMPS.
3. SINKS AND LAVATORY FAUCETS AND SHOWER HEADS TO BE CERTIFIED BY STATE FOR ENERGY APPLIANCE STANDARD COMPLIANCE.
4. LAVATORIES IN RESTROOMS OF PUBLIC FACILITIES SHALL BE EQUIPPED WITH OUTLET DEVICES THAT LIMIT THE FLOW OF HOT WATER TO A MAXIMUM OF 0.5 GPM OR WITH SELF-CLOSING FAUCETS THAT LIMIT DELIVERY TO A MAXIMUM OF 0.2 GALLONS OF HOT WATER FOR RECIRCULATING SYSTEMS, AND SHALL BE EQUIPPED WITH DEVICES THAT LIMIT THE OUTLET TEMPERATURE TO A MAXIMUM OF 110 °F.
5. MAXIMUM FLUSH VOLUMES AND FLOW RATES:

WATER CLOSETS:	1.28 GALLON PER FLUSH(BLOWOUT TYPE EXEMPT)
URINALS:	0.125 GALLON PER FLUSH(WALL MOUNTED)
	0.5 GALLON PER FLUSH(FLOOR MOUNTED)
LAVATORY:	0.5 GALLON PER MINUTE
	0.2 GALLON PER CYCLE(SELF-CLOSING)
KITCHEN FAUCETS:	1.8 GALLON PER MINUTE @ 60 PSI

CA GREEN BUILDING NOTES

5.303.2 PLUMBING FIXTURES SHALL MEET THE MAXIMUM FLOW RATE VALUES SHOWN IN TABLE 5.303.2.3.

5.303.3 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. PLUMBING FIXTURES (WATER CLOSETS AND URINALS) AND FITTINGS (FAUCETS AND SHOWERHEADS) SHALL COMPLY WITH THE FOLLOWING:

5.303.3.1 WATER CLOSETS. THE EFFECTIVE FLUSH VOLUME OF ALL WATER CLOSETS SHALL NOT EXCEED 1.28 GALLONS PER FLUSH. TANK-TYPE WATER CLOSETS SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATER SENSE SPECIFICATION FOR TANK-TYPE TOILETS.

5.303.6 PLUMBING FIXTURES AND FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA PLUMBING CODE, AND SHALL MEET THE APPLICABLE STANDARDS REFERENCED IN TABLE 1401.1 OF THE CALIFORNIA PLUMBING CODE AND IN CHAPTER 6 OF THIS CODE.

PLUMBING SPECIFICATION

1. SCOPE OF WORK
   A. FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES REQUIRED TO COMPLETE THE INSTALLATION OF THE WORK OF THIS SECTION AS SHOWN ON THE DRAWINGS AND DESCRIBED HEREIN, INCLUDING ALL INCIDENTAL WORK NECESSARY TO MAKE IT COMPLETE, SATISFACTORY AND READY FOR OPERATION AND USE.
   B. INSTALLATION OF ALL EQUIPMENT SHALL COMPLY WITH THE APPLICABLE DIVISIONS OF THE LOCAL BUILDING AND SAFETY DEPARTMENT CODES.
2. WATER PIPE
   A. DOMESTIC COLD AND HOT WATER PIPING SHALL BE AS FOLLOWS:
   BELOW GROUND – TYPE "K" SOFT DRAWN COPPER TUBING CONFORMING TO ASTM B88 WITH WROUGHT COPPER SOLDER JOINT FITTINGS AND SILVER SOLDERED JOINTS.
   ABOVE GROUND – TYPE "L" HARD DRAWN COPPER TUBING CONFORMING TO ASTM B88 WITH WROUGHT COPPER SOLDER JOINT FITTINGS AND 95-5 SOLDER.
   B. GATE VALVE SHALL BE BRONZE WITH ENDS TO SUITE PIPE, NON-RISING STEM FOR 150 PSI WORKING PRESSURE.
3. ROOF DRAINAGE
   ROOF DRAINAGE SYSTEM SHALL BE SERVICE-WEIGHT CAST IRON WITH NO-HUB FITTINGS, OR APPROVED EQUAL. ALL HORIZONTAL ROOF DRAINAGE SHALL BE FLASHED AND COUNTERFLASHED.
4. CONDENSATE DRAINS
   CONDENSATE DRAINS FROM HVAC UNITS SHALL BE TYPE M SOFT DRAWN COPPER TUBING OR SCHED. 80 PVC, SUPPORT PIPING AND PROTECT FROM DAMAGE. ALL HORIZONTAL CONDENSATE DRAINS SHALL BE SLOPED 1/8" PER FOOT MINIMUM.
5. WASTE AND VENT
   A. ALL HORIZONTAL SOIL AND WASTE PIPE SHALL BE SET TO A GRADE OF 2% PER FOOT (1/4"/FT.)
   B. INSIDE BUILDING WASTE PIPE ABOVE GROUND AND ALL PIPING BELOW GROUND UP TO 5'-0" FROM BUILDING SHALL BE STANDARD WEIGHT CAST IRON AND/OR APPROVED BY LOCAL AUTHORITIES AND NO-HUB FITTINGS. FROM 5'-0" OUTSIDE BUILDING TO CONNECTION WITH CITY STREET SEWER MAIN PIPE SHALL BE AS PER GOVERNING CODE.
   C. ALL VENT PIPING SHALL BE CAST IRON WITH NO-HUB FITTINGS, OR APPROVED EQUAL.
   D. CLEANOUT SHALL BE INSTALLED AS PER GOVERNING CODE.
6. NATURAL GAS PIPING
   A. PIPE SHALL BE NEW SCHEDULE 40 BLACK STEEL CONFORMING TO ASTM A53, GRADE A & B, WITH 150 LB. BLACK MALLEABLE IRON SCREWED FITTINGS AND COUPLINGS.
   B. GAS VALVES: ONE INCH AND SMALLER SHALL BE LEVER HANDLE TYPE WITH CHECK, ALL BRONZE, SCREWED, CRANE NO. 298 OR EQUAL. 1 1/4" AND LARGER VALVES SHALL BE IRON BODY WITH BRONZE SQUARE HEAD PLUG, CRANE NO. 324 OR EQUAL. PROVIDE OPERATING WRENCH WHERE REQUIRED FOR EACH VALVE. PROVIDE APPROVED GAS PRESSURE REGULATORS.
   C. NATURAL GAS RIGHT AND LEFT HAND NIPPLES AND COUPLINGS SHALL BE NEW BLACK IRON. UNIONS ALLOWED DOWNSTREAM OF EQUIPMENT SHUT OFF VALVES ONLY.
   D. GAS PIPING AT MULTIPLE METER INSTALLATIONS SHALL BE MARKED BY A METAL TAG MEANS ATTACHED BY THE INSTALLING AGENCY, DESIGNATING THE BUILDING OR THE PART OF THE BUILDING BEING SUPPLIED.
7. CLEANOUTS
   PROVIDE CLEANOUTS WITH BRASS SCREW PLUG AT ALL CHANGES OF DIRECTION TO PERMIT ROUTING OF ALL SEWERS.
8. VALVES
   EVERY PLUMBING FIXTURE SHALL BE INDEPENDENTLY VALVED.
9. TESTING
   ALL SEWERS AND WATER PIPING SHALL BE PROPERLY TESTED TO THE SATISFACTION OF THE ARCHITECT AND THE LOCAL BUILDING INSPECTOR.
10. EXCAVATION AND BACK FILLING
    TRENCHES SHALL BE BACK FILLED AND SETTLED BY PUDDLING. NO PIPE SHALL BE LESS THAN 12" BELOW FINISH GRADE.
11. INDIRECT WASTE
    ALL INDIRECT WASTE, WASTE PIPING OR FIXTURE WHICH RECEIVES THE DISCHARGE FROM A DISHWASHER, STEAMER OR SIMILAR PIECE OF EQUIPMENT WHICH PRODUCES WATER AT A TEMPERATURE HIGHER THAN 125°F SHALL BE DWV COPPER OR CAST IRON 10'-0" (MIN) DOWNSTREAM FROM THE OUTLET PRODUCING SUCH DISCHARGE. COORDINATE WITH EQUIPMENT SUPPLIER.

    ALL INDIRECT WASTE PIPING FROM EQUIPMENT TO ABOVE FLOOR RECEPTOR SHALL BE 1" MIN. COPPER UNLESS LARGER SIZE IS INDICATED BY EQUIPMENT OPENING.

GENERAL NOTES

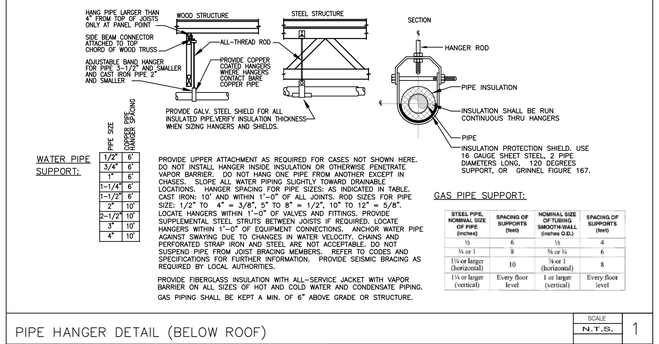
1. BEFORE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, ELEVATIONS AND CHARACTERISTICS OF ALL UTILITIES AND PIPING, AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
2. THE PLUMBING SYSTEM DESIGN, INSTALLATION AND MATERIALS SHALL CONFORM TO THE 2019 CPC AND AUTHORITIES HAVING JURISDICTION. IN CASE OF CONFLICTS WITH CODES, DRAWINGS, OR SPECIFICATIONS, THE MOST STRINGENT SHALL PREVAIL.
3. THE DRAWINGS WERE PREPARED WITH THE BEST STRUCTURAL AND ARCHITECTURAL INFORMATION AVAILABLE. IT IS UNDERSTOOD THAT EQUIPMENT LOCATIONS AND ROUTING OF PIPING MAY VARY FROM THAT SHOWN ON THE PLANS AS CONSTRUCTION PROCEEDS. IT IS THE CONTRACTORS RESPONSIBILITY TO:
   a. NOTIFY THE MECHANICAL ENGINEER OF CONSTRUCTION RESTRAINTS WHICH MAKE VARIATIONS FROM THE PLANS NECESSARY.
   b. COMPLETE ALL WORK INCLUDING THE VARIATIONS WITHOUT CHARGING EXTRAS TO THE BID CONTRACT. COMPLETION OF WORK MEANS THE JOB IS WORKING AND MEETS ALL CITY, COUNTY AND UNIFORM MECHANICAL, PLUMBING AND BUILDING CODE REQUIREMENTS.
4. THESE DRAWINGS DO NOT INCLUDE ALL NECESSARY SAFETY REQUIREMENTS. CONTRACTOR TO COMPLY TO THE SAFETY REQUIREMENTS SET FORTH BY THE LOCAL AUTHORITIES HAVING JURISDICTION.
5. THESE DRAWINGS ARE FOR BIDDING PURPOSES ONLY. THEY ARE ESSENTIALLY DIAGRAMMATIC TO THE EXTENT THAT MANY OFFSETS, BONDS, UNIONS, SPECIFIC FITTINGS AND EXACT LOCATIONS ARE NOT INDICATED.
6. THE PLUMBING CONTRACTOR SHALL PROVIDE THE WATER, SEWER AND STORM DRAIN SYSTEMS AND CONNECT TO EACH DESIGNATED POINT OF CONNECTIONS 5'-0" OUTSIDE OF THE BUILDING. ALL SEWER SYSTEM SHALL MEET THE REQUIRED INVERT ELEVATION SHOWN ON THE CIVIL DRAWINGS. PIPING BEYOND THIS POINT IS SPECIFIED UNDER ANOTHER SECTION OF THE SPECIFICATION AND SHALL BE AS SHOWN ON THE CIVIL DRAWINGS.
7. THE OWNER SHALL MAKE ALL ARRANGEMENTS WITH UTILITY COMPANIES FOR SERVICE AND CONNECTION AND SHALL MAKE APPLICATION FOR SERVICE AND PERMITS AND SHALL PAY ALL FEES AND CHARGES INCLUDING THE COST OF VAULTS AND METERS.
8. ALL PLUMBING WORK SHALL BE INSTALLED SO AS TO AVOID INTERFERENCE WITH ELECTRICAL EQUIPMENT, MECHANICAL EQUIPMENT AND STRUCTURAL FRAMING, SKYLIGHT, ETC.
9. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL CEILING ACCESS PANELS WITH THE ARCHITECTURAL REFLECTED CEILING PLAN AND ELECTRICAL LIGHTING PLAN.
10. COORDINATE ALL LOCATIONS, SIZES AND ELEVATIONS OF ALL SLEEVES THROUGH WALLS, BEAMS, SLABS AND FOOTING WITH STRUCTURAL AND ARCHITECTURAL DRAWINGS. ALL PIPES SLEEVING THROUGH FOOTINGS SHALL HAVE A SLEEVE DIAMETER OF TWO PIPE SIZES OVER THE PIPE PASSING THROUGH THE FOOTING.
11. CONTRACTOR MUST NOT CUT, RELOCATE, COMPROMISE, DAMAGE OR OTHERWISE ALTER THE ROOF STRUCTURE. THE JOISTS WHICH OCCUR THROUGHOUT ALL THE MECH. BAY AREAS LIKE WISE MUST NOT BE ALTERED.
12. BEFORE FABRICATION OR INSTALLATION, THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS OF ALL MECHANICAL EQUIPMENT AND EQUIPMENT PROVIDED UNDER ANOTHER SECTION OF SPECIFICATIONS. EXACT ROUGH-IN LOCATIONS AND REQUIREMENTS SHALL BE COORDINATED IN FIELD.
13. CONNECTION BETWEEN INCOMPATIBLE MATERIALS ABOVE GRADE AND INSIDE BUILDING SHALL BE MADE WITH TWO (2) DIELECTRIC UNIONS SEPARATED BY A TWELVE INCH (12") SECTION OF RED BRASS PIPE.
14. PIPING SUPPORTS. ALL PIPING TO BE SUPPORTED WITH HANGERS AND BRACKETS WHICH PROVIDE ISOLATION FROM FRAMING. CONTACT BETWEEN PIPE AND SUPPORT TO BE LINED WITH PLASTIC OR FELT.
15. ALL FLOOR AND WALL PENETRATIONS MUST BE SEALED WATERTIGHT AND VERMIN PROOF.
16. ALL EXTERIOR GAS COCKS, WATER SHUTOFF VALVES AND/OR SEWER CLEAN OUTS BELOW GROUND SHALL BE INSTALLED IN YARD BOXES WITH THE COVERS CONSPICUOUSLY MARKED "GAS", "WATER", AND "SEWER" RESPECTIVELY.
17. EXACT LOCATIONS AND MOUNTING HEIGHTS OF PLUMBING FIXTURES SHALL BE OBTAINED FROM THE ARCHITECTURAL DRAWINGS.
18. SEE ARCHITECTURAL DRAWINGS FOR HANDICAP FIXTURE LOCATIONS AND MOUNTING HEIGHTS. INSULATE ALL EXPOSED HOT WATER AND DRAIN PIPING BELOW HANDICAP LAVATORIES AND SINKS WITH INSULATING TAPE AND OFFSET P-TRAP AGAINST WALL. ALL FLUSH VALVES FOR HANDICAP SHALL BE LOCATED ON HANDICAP WHEELCHAIR ACCESS SIDE OF STALL.
19. ALL WASTE, SOIL AND VENT PIPING SHALL SLOPE AT 2% UNLESS OTHERWISE INDICATED.
20. ALL CLEAN OUTS SHALL BE INSTALLED WHERE READILY ACCESSIBLE. THE CONTRACTOR SHALL COORDINATE ALL CLEAN OUT LOCATIONS OF EQUIPMENT, CABINETS, ETC., WITH THE ARCHITECT PRIOR TO ANY INSTALLATION.
21. ALL VALVES, TRAP PRIMERS, WATER HAMMER ARRESTORS OR OTHER EQUIPMENT SHOWN IN WALLS OR ABOVE NON-ACCESSIBLE CEILINGS SHALL BE INSTALLED BEHIND AN ACCESS PANEL.
22. PLUMBING CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO BASE BID. HE SHALL FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS AND FUTURE WORK TO BE DONE. HE SHALL INCLUDE ALL HIS SITE INFORMATION AND CONDITIONS WITHIN HIS BASE BID. HE SHALL BE RESPONSIBLE FOR COMPLETE AND FULLY FUNCTIONING PLUMBING SYSTEMS.
23. PLUMBING CONTRACTOR SHALL COORDINATE COMPLETE PLUMBING INSTALLATION AND REQUIREMENTS PRIOR TO BASE BID WITH ALL LOCAL DISTRICTS AND GOVERNING AUTHORITIES. INCLUDE ALL FINDINGS WITHIN THE BASE BID.
24. WATER CLOSET FOR PUBLIC USE SHALL BE ELONGATED BOWL TYPE WITH OPEN FRONT SEAT.
25. ABS, PVC OR PLASTIC PIPING IS NOT ALLOWED INSIDE OR BELOW THE BUILDING, IF ALLOWED WITH BUILDING OFFICIAL'S APPROVAL, IT SHALL BE INSTALLED IN ACCORDANCE WITH CPC, TABLE 701.2, AND THE FIRESTOP PROTECTION REQUIREMENTS IN CBC.
26. ALL LAVATORIES OR HAND SINKS WILL HAVE A COMBINATION FAUCET OR PREMIXING FAUCET CAPABLE OF SUPPLYING WATER TEMPERED TO 110°F. SELF-CLOSING OR METERED FAUCET TO PROVIDE AT LEAST 15 SECONDS OF WATER WITHOUT REACTIVATION.
27. ALL PLUMBING, AND GAS LINES SHALL BE CONCEALED WITHIN THE BUILDING STRUCTURE TO AS GREAT EXTENT AS POSSIBLE. ALL EXPOSED CONDUITS, PLUMBING, ETC. SHALL BE INSTALLED AT LEAST 6" OFF FLOOR AND 3/4" FROM WALLS USING STANDOFF BRACKETS.
28. PLUMBING OR PIPING CANNOT BE INSTALLED ACROSS ANY AISLE WAY, TRAFFIC AREA OR DOOR OPENING.
29. MULTIPLE RUNS OR CLUSTERS OF PIPELINES SHALL BE FURRED IN OR ENCASED IN AN APPROVED SEALED ENCLOSURE.

PLUMBING FIXTURE UNITS

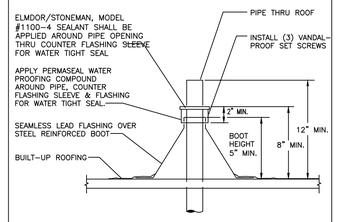
FIXTURE TYPE	NO. OF FIXTURES	WATER LOAD: WATER FU PER FIXTURE	WATER LOAD: FIXTURE CW FU	WATER LOAD: FIXTURE HW FU	WASTE LOAD: WASTE FU PER FIXTUR	WASTE LOAD: TOTAL WASTE FU
WATER CLOSET	1	2.5	2.5		4	4
LAVATORY	1	1	1	1	2	2
TOTAL			3.5	1		6

PLUMBING FIXTURE SCHEDULE

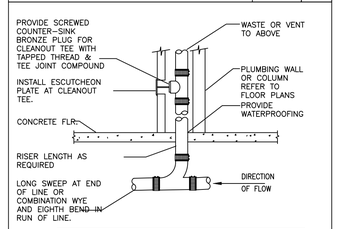
MARK	ITEM	HW	CW	VENT	WASTE	DESCRIPTION
WC	TANK TYPE WATER CLOSET	--	3/4"	2"	4"	AMERICAN STANDARD CADET PRO ELONGATED ADA COMPLIANT TANK WATER CLOSET WITH OPEN FRONT ELONGATED TOILET SEAT. 1.28 GPF. EQUIVALENT ACCEPTABLE.
LAV	WALL MOUNTED LAVATORY	1/2"	1/2"	2"	2"	AMERICAN STANDARD 0356.041 W/ FAUCET AMERICAN STANDARD 6055.165. SELECTRONIC PROXIMITY FAUCET. 0.5 GPM. ADA COMPLIANT. EQUIVALENT ACCEPTABLE. INSTALL WITH POWERS #LFG480 MIXING VALVE(ASSE 1070 LISTED).
WH	INSTA HOT WATER HEATER	1/2"	1/2"	--	--	ARISTON 2.5 GAL. 1500-WATT 120-VOLT. POINT OF USE MINI ELECTRIC WATER HEATER. 8 GPH RECOVERY AT 90°F RISE. INSTALL UNDER LAV.
WCO	WALL CLEANOUT	--	--	--	LINE SIZE	ZURN Z1441 WALL CLEANOUT W/ SMOOTH ACCESS COVER. EQUIVALENT FIXTURE ACCEPTABLE.



PIPE HANGER DETAIL (BELOW ROOF) — SCALE N.T.S. — 1



PIPING THROUGH ROOF DETAIL — SCALE N.T.S. — 2



NOTE:
PROVIDE WCO WHERE SHOWN ON PLAN, AND ON SANITARY WASTE BRANCHES NOT SERVED WITH A FLOOR CLEANOUT: LOCATED ABOVE FIXTURE FLOOR RIM WITHIN 4'-0" OF FLOOR. CONSULT LOCAL CODES FOR OTHER WCO REQUIREMENTS.

WALL CLEANOUT DETAIL — SCALE N.T.S. — 3

CDI Circa Domini International
Programing - Planning - Architecture - Interiors - Engineering
16520 Bake Parkway, Suite 100, Irvine, CA 92618
◊ Telephone: (949) 336-6636

MONARCH BAY

MONARCH BAY DRIVE,
DANA POINT, CA 92629

PLUMBING NOTES & SCHEDULES

REVISION

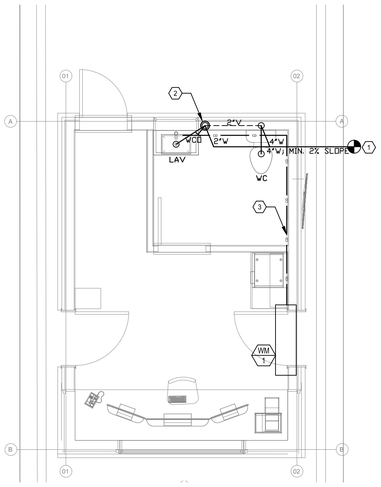
SEAL

REGISTERED PROFESSIONAL ENGINEER — CHUNGSUN KANG — M 37036 — Exp. 9-30-20 — MECHANICAL — STATE OF CALIFORNIA

DATE	JOB NO
09-16-20	-
SCALE	DRAWN BY
N.T.S.	-

DRAWING NO.

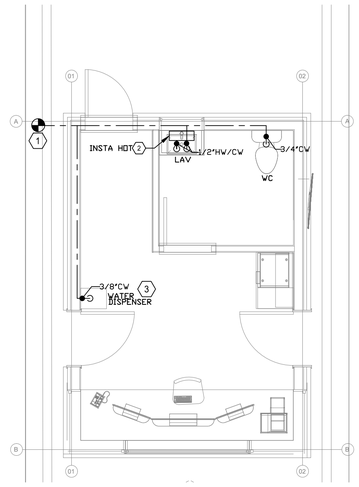
P-0.0



WASTE & VENT PLAN

(#) NOTES:

1. 4"W POC; VIF.
2. 3"VTR.
3. 3/4"CONDENSATION PIPE DRAIN TO LAV TAILPIECE.



WATER PLAN

(#) NOTES:

1. 3/4"CW POC. VERIFY IN FIELD.
2. INSTAHOT MOUNTED BELOW LAV.
3. INSTALL WATER DISPENSER W/ BACKFLOW PREVENTER.

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PLUMBING PLANS

REVISION

SEAL

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CHUNGSUN KANG
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MECHANICAL
STATE OF CALIFORNIA

DATE	JOB NO
09-16-20	–
SCALE	DRAWN BY
1/4" = 1'-0"	–

DRAWING NO.

P-1.0