

Attachment I

**CEQA Exemption Energy and
Water Efficiency Compliance
Memorandum**



To: Nicole Zaccack

From: Budlong & Associates

Date: July 8, 2020

Subject: CEQA 21155.1 (a) (8) Energy and Water Efficiency Compliance for
1917 -2005 1/2 West 3rd Street Los Angeles, CA 90057

The purpose of this memo is to document that the proposed affordable housing project ("Project") located at 1917 -2005 1/2 West 3rd Street Los Angeles, CA 90057 ("Site"), being developed by Miramar Development, LP, would meet the CEQA 21155.1 exemption for transit priority project subsection (a) (8) requirement for energy and water efficiency. The Project is a 7- story multifamily residential development with 137 units.

California Public Resources Code Section 21155.1 (a) (8) requires:

Buildings in the transit priority project are 15 percent more energy efficient than required by Chapter 6 of Title 24 of the California Code of Regulations and the buildings and landscaping are designed to achieve 25 percent less water usage than the average household use in the region.

The energy and water efficiency compliance strategies are separately described below. This Project complies with both requirements, as follows:

- Energy Use: **15.5%** more than required by Title 24, Part 6 2019
- Water Use: **89%** below the MWD baseline

ENERGY EFFICIENCY

Regulatory Framework

21155.1 (a) (8) requires that a project be 15 percent more energy efficient than required by Title 24, Part 6, the California Energy Code.

Title 24 is updated, typically every three years. Title 24 2019 has been approved and took effect January 1, 2020. Projects will need to comply under the Title 24 version in effect when filing a building permit application.

Title 24, Part 6 provides two compliance paths:

1. The *Prescriptive Path*, under which projects must implement a specified list of strategies.
2. The *Performance Path*, under which projects use California Energy Commission-approved energy modeling software to demonstrate that projects meet the required level of energy performance (typically stated in kBtUs/square foot/year). Under the Performance Path, project teams can utilize any energy efficiency strategy as long as the required energy performance level is met.

To enable the Department of City Planning to readily confirm compliance with the Subsection (a) (8) requirement of 15% more efficient than Title 24, Part 6, the Project must use the Performance Path.

Energy Modeling Process

Preliminary whole building energy modeling was conducted to determine the expected Title 24 energy code performance. The following sections provide greater detail into the energy modeling process, the necessary design measures, and the resulting performance.

To fully understand the actual building performance and effect of various energy efficiency measures, an energy modeling methodology was used to perform the analysis. A model of the Title 24 standards was created and strictly followed the Title 24 Alternative Calculation Method (ACM) Manual. Energy model inputs assumptions such as envelope construction, schedules and internal loads follow Title 24 Reference Method Appendix 5.4 A and B. HVAC system efficiencies were derived from Title 24-2019 standards.

Building energy simulations were performed using simulation software that permits modeling of complex building geometry, lighting systems, mechanical systems, central plant equipment, and detailed thermal energy definitions of key characteristics for the building envelope, mechanical equipment, lighting fixtures, and electrical equipment. Systems were simulated with detailed control sequences and utilization schedules. The interactions between all building loads, systems and HVAC plants were then simulated in hourly time intervals using typical or long-term average weather and solar data for the location to provide a detailed account of energy consumption and demand. For each of the 8,760 hours during the course of a typical year, the program considered site climate data, building construction, occupancy load, connected loads, and the response of the mechanical systems to maintain occupancy comfort to calculate the overall annual

building energy utilization profile.

Simulation inputs for this energy analysis are discussed below and were derived from the designed system information, Project documents, mechanical schedules and assumptions provided by the design team, and Title 24 standard.

Energy Efficiency Measures

The energy efficiency measures used in the design and analysis of the Project are summarized in this section. The energy measures identified below provide a path to achieve the 15 percent energy efficiency requirement set forth in Section 21155.1(a)(8). During Project implementation, other equally or more effective energy efficiency measures may ultimately be incorporated into the Project to achieve the same or better overall efficiency.

The measures are organized into categories (building envelope, lighting, HVAC, domestic water heating and renewables). To see more detailed inputs for the proposed and Title 24 baseline models, refer to Appendix A.

Building Envelope

1. **Exterior walls with R-21 batt insulation:** The Project uses 2"x6" framed wall construction for above-grade walls, with high density batt insulation in the framing cavity. This high density insulation provides a greater R-value than that of typically used insulation products which improves insulation and, hence, reduces heating and cooling energy use.
2. **Roofs with R-30 batt insulation:** Using extra thick insulation in the roof assembly increases the R- value, reducing heating and cooling energy use.
3. **High-reflectance roofing rated by the Cool Roof Rating Council:** A "cool roof" reflects additional solar heat, which reduces cooling energy in cooling-dominated climates like Southern California.
4. **Perforated rainscreen for solar shading:** On the south side of the building a metal perforated rainscreen will provide solar shading for the exposed surfaces.
5. **High-performance windows with dual-paned low-emissivity glazing:** Dual-paned windows provide additional insulation over single-paned windows, while high performance, low-emissivity coatings help to let in mostly visible light while blocking other light that brings in heat and no visible light. These combined effects reduce cooling energy during the summer and heating during the winter.

Lighting

1. **Optimized façade to capitalize on natural daylight first:** Optimizing the façade is a means of balancing the amount of windows. Windows let in natural daylight which allows electric lights to be turned off, but they also bring in additional heating and cooling when compared to an insulated wall. The result is a building that provides ample daylighting while not being excessive, decreasing overall lighting, heating and cooling energy use.

2. **High-efficacy, LED lamp types for common areas:** High-efficacy LED fixtures provide more lumens (light output) per watt (electric input) than other lamps like fluorescent or incandescent.
3. **Daylighting controls for all indoor, nonresidential spaces:** Also known as “daylight harvesting,” these controls sense the amount of natural daylight entering a space to automatically dim the electric lights, saving energy while maintaining light levels.
4. **Occupancy controls with dimming for most common area lighting:** Occupancy controls sense when spaces are vacant for a period of time and automatically turn off lights, saving energy as compared to leaving them on.

HVAC System

1. **High-efficiency 20.5 SEER split system heat pumps for heating, ventilating and air-conditioning (HVAC):** Split system heat pumps have one outdoor unit connected to one indoor fan coil unit (FCU). Seasonal energy efficiency ratio (SEER) represents the “average” efficiency of HVAC equipment. By increasing this value over typical code-minimum efficiencies, the equipment provides the same amount of heating and cooling while using less electricity to operate it. Providing individual systems for each apartment allows the system to be powered from the tenant’s electric meter, which tends to encourage more responsible use and lower energy consumption.

Domestic Water Heating

1. **Centralized hot water system:** Centralized water heating systems are larger and use more efficient equipment than individual heating within the units (condensing water heaters are 92+%). They have recirculation controls to keep water in the lines hot, which reduces waste. They also make it easier to integrate into renewable energy systems like solar hot water.
2. **Solar water heating system:** Solar domestic hot water heating panels use solar energy to heat water for domestic use. The water is stored in tanks so that it can be used as needed. Installing 25 solar water heating panels on the roof produces about 30% of the total hot water demand.
3. **High-efficiency water fixtures:** Using water-efficient fixtures (like those described in a later section) inherently uses less hot water, which reduces the amount of water being heated and overall energy consumption.

Energy Model Results

Energy modeling resulted in a design that anticipates using **15.5% less energy than the Title 24-2019** energy code requirements for each building. Refer to the table and figure below to see additional details about the result by each energy end-use.

Energy End-Use	Proposed	Standard	Margin
Space Heating	0.96	0.93	-0.03
Space Cooling	77.52	115.44	37.92
Indoor Fans	68.86	47.92	-20.94
Heat Rejection	-	2.52	2.52
Pumps and Misc.	-	4.43	4.843
Domestic Hot Water	17.47	24.49	7.02
Indoor Lighting	3.12	3.12	-
Total	167.93	198.85	30.92
Savings	15.5%		

Table 1. Energy Performance of Proposed Design Compared with the Title 24-2019 Standard Baseline (kBtu/sf/yr)

WATER EFFICIENCY

Regulatory Framework

21151.1 (a) (8) water efficiency requirement is that each project must achieve a 25 percent water use reduction from the *regional average household water use*.

The water baseline for the Project is set with help of *MWD- February 2020 Covering Fiscal Year (July 2018 – June 2019)*. **131 GPCD** (Gallons Per Capita Per Day) is considered as per the calendar year data available from 1985 to 2019.

The projected water fixture rates assume the maximum fixture flow rates allowed under the City of Los Angeles Green Building Code for residential uses. Other elements are calculated using accepted industry practice. The fixture flow rates are as follows:

1. **Showerheads:** 1.8 GPM (gallons per minute)
2. **Lavatory faucets:** 1.2 GPM
3. **Kitchen faucets:** 1.5 GPM
4. **Tank water closets (toilets):** 1.28 GPF (gallon per flush)
5. **Clothes washers:** 5.1 GPD (gal/person-day)
6. **Dishwashers:** 0.4 GPD (gal/person-day)

Projected Savings

The Project's *Water Use Analysis*, included in Appendix B, calculates both the baseline and projected water use, and then the percentage savings from the MWD baseline. The projected water use is based on compliance with the City of Los Angeles Green Building Code, which includes water efficiency measures designed to reduce water use.

The Project has 137 units, thus occupancy is estimated as 332. (The latest Citywide average household size is 2.42 residents per housing unit, based on 2017 Census American Community Survey 5-Year Estimate data (2013–2017), per correspondence with Jack Tsao, Housing Planner, Los Angeles Department of City Planning, July 31, 2019.)

Water baseline for this Project is 131 GPCD (As per MED report) X 2.42 (Occupants per unit) = 317.02 GPCD. Against it only 34.8 GPCD water consumption is found inclusive of appliance and landscape. It is only 10.98 % from total baseline GPCD. So, the percent reduction from MWD baseline is 89.02%.

These water efficiency measures would sufficiently reduce water use to meet the CEQA 21155.1 (a) (8) threshold of 25%.

CONCLUSION

As discussed above, the Project meets both energy and water efficiency standards

MIRAMAR DEVELOPMENT, LP
ENERGY AND WATER EFFICIENCY REPORT

1917-2005 1/2 WEST 3RD STREET
LOS ANGELES, CA 90057

mandated by CEQA Section 21155.1 (a) (8).

Appendix A

Title 24 Energy Usage Calculation Report

Project Name:	Miramar Development Affordable Housing	NRCC-PRF-01-E	Page 1 of 33
Project Address:	1917 - 2005 1/2 West 3rd Street Los Angeles 90057	Calculation Date/Time:	17:15, Mon, Jul 13, 2020
Input File Name:	20-139 Miramar Single Split System VERTICAL UNIT with Gas WH.cibd19x		

A. GENERAL INFORMATION					
1.	Project Location (city)	Los Angeles	8.	Standards Version	Compliance2019
2.	CA Zip Code	90057	9.	Compliance Software (version)	EnergyPro 8.1
3.	Climate Zone	9	10.	Weather File	LOS-ANGELES-DOWNTOWN_722874_CZ2010.epw
4.	Total Conditioned Floor Area in Scope	85,129 ft²	11.	Building Orientation (deg)	(N) 0 deg
5.	Total Unconditioned Floor Area	0 ft²	12.	Permitted Scope of Work	NewComplete
6.	Total # of Stories (Habitable Above Grade)	7	13	Building Type(s)	High-Rise Residential
7.	Total # of dwelling units	137	14	Gas Type	NaturalGas

B. PROJECT SUMMARY									
Table Instructions: Table B shows which building components are included in the performance calculation. If indicated as not included, the project must show compliance prescriptively if within permit application.									
Building Components Complying via Performance					Building Components Complying Prescriptively				
Envelope	☒	Performance	Covered Process: Commercial Kitchens	☐	Performance	The following building components are ONLY eligible for prescriptive compliance and should be documented on the NRCC form listed if within the scope of the permit application (i.e. compliance will not be shown on the NRCC-PRF-E).			
	☐	Not Included		☒	Not Included				
Mechanical	☒	Performance	Covered Process: Computer Rooms	☐	Performance	Indoor Lighting (Unconditioned)§140.6	NRCC-LTI -E is required		
	☐	Not Included		☒	Not Included	Outdoor Lighting §140.7	NRCC-LTO-E is required		
Domestic Hot Water	☒	Performance	Covered Process: Laboratory Exhaust	☐	Performance	Sign Lighting §140.8	NRCC -LTS-E is required		
	☐	Not Included		☒	Not Included	Mandatory Measures			
Lighting (Indoor Conditioned)	☒	Performance				Electrical power systems, commissioning and solar ready requirements are mandatory and should be documented on the NRCC form listed if applicable (i.e. compliance will not be shown on the NRCC-PRF-E.)			
	☐	Not Included				Electrical Power Distribution S110.11		NRCC-ELC-E is required	
Solar Thermal Water Heating	☒	Performance				Commissioning S120.8		NRCC-CXR-E is required	
	☐	Not Included				Solar Ready S110.10		NRCC-SRA-E is required	

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C1. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft²-yr)

COMPLIES

Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV) ¹
Space Heating	0.93	0.96	-0.03
Space Cooling	115.44	77.52	37.92
Indoor Fans	47.92	68.86	-20.94
Heat Rejection	2.52	--	2.52
Pumps & Misc.	4.43	--	4.43
Domestic Hot Water	24.49	17.47	7.02
Indoor Lighting	3.12	3.12	--
ENERGY STANDARDS COMPLIANCE TOTAL	198.85	167.93	30.92 (15.5%)

¹ Notes: The number in parenthesis following the Compliance Margin in column 4. represents the Percent Better than Standard.

C2. RESULTS FOR 'ABOVE CODE' QUALIFICATIONS¹

☐ This project is pursuing CalGreen Tier 1		☐ This project is pursuing CalGreen Tier 2	
Miscellaneous Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV) ¹
Receptacle	54.00	54.00	--
Process	509.54	509.54	--
Other Ltg	41.67	41.67	--
Process Motors	--	--	--
COMPLIANCE TOTAL PLUS MISCELLANEOUS COMPONENTS	804.06	773.14	30.9 (3.8%)

¹ Notes: This table is used to document compliance with programs OTHER THAN Title 24 Part 6, if applicable.

D. EXCEPTIONAL CONDITIONS

The aged solar reflectance and aged thermal emittance must be listed in the Cool Roof Rating Council database of certified products. For projects where initial reflectance is used, the initial reflectance must be listed, and the aged reflectance is calculated by the software program and used in the compliance model.

This project uses the Simplified Geometry Performance Modeling Approach which is not capable of modeling daylighting controls and assumes the prescriptive Secondary Daylit Control requirements are met. PRESCRIPTIVE COMPLIANCE documentation (form NRCC-LTI-02-E) for the requirements of section 140.6(d) Automatic Daylighting Controls in Secondary Daylit Zones is required.

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E. HERS VERIFICATION

The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below.

- Highrise residential ventilation airflow
- Highrise residential kitchen hood rated by HVI
- Highrise residential dwelling unit envelope air leakage

F. ADDITIONAL REMARKS

This Section Does Not Apply

G. ENVELOPE GENERAL INFORMATION

1	2	3	4
Opaque Surfaces & Orientation	Total Gross Surface Area (ft ²)	Total Fenestration Area (ft ²)	Window to Wall Ratio (%)
North-Facing ¹	58,494 ft ²	3,950 ft ²	06.8%
East-Facing ²	5,953 ft ²	159 ft ²	02.7%
South-Facing ³	17,595 ft ²	5,377 ft ²	30.6%
West-Facing ⁴	6,571 ft ²	460 ft ²	07.0%
Total	88,613 ft²	9,946 ft²	11.2%
Roof	11,844 ft ²	0 ft ²	00.0%

Notes:

¹ North-Facing is oriented to within 45 degrees of true north, including 45°00'00" east of north (NE), but excluding 45°00'00" west of north (NW).

² East-Facing is oriented to within 45 degrees of true east, including 45°00'00" south of east (SE), but excluding 45°00'00" north of east (NE).

³ South-Facing is oriented to within 45 degrees of true south, including 45°00'00" west of south (SW), but excluding 45°00'00" east of south (SE).

⁴ West-Facing is oriented to within 45 degrees of true west, including 45°00'00" north of due west (NW), but excluding 45°00'00" south of west (SW).

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H. FENESTRATION ASSEMBLY SUMMARY §110.6								
1.	2.	3.	4.	5.	6.	7.	8.	9.
Fenestration Assembly Name / Tag or I.D.	Fenestration Type / Product Type / Frame Type	Certification Method ¹	Assembly Method	Area ft ²	Overall U-factor	Overall SHGC	Overall VT	Status ²
Solarban 70XL Double Pane Clear	VerticalFenestration FixedWindow N/A	NFRC Rated	Manufactured	9946	0.28	0.27	0.50	N

¹ Newly installed fenestration shall have a certified NFRC Label Certificate or use the CEC default tables found in Table 110.6-A and Table 110.6-B. Center of Glass (COG) values are for the glass-only, determined by the manufacturer, and are shown for ease of verification. Site-built fenestration values are calculated per Nonresidential Appendix NA6 and are used in the analysis.

² Status: N - New, A - Altered, E - Existing

I. ENVELOPE DETAILS §120.7 & §140.3								
II. OPAQUE SURFACE ASSEMBLY SUMMARY								
1	2	3	4	5	6	7	8	9
Surface Name	Surface Type	Description of Assembly Layers	Area (ft ²)	Framing Type	Cavity R-Value	Continuous R-Value	U-Factor / F-Factor / C-Factor	Status ¹
Miramar 8 CMU Wall8	ExteriorWall	Gypsum Board - 3/8 in. Concrete - Solid Grout - 125 lb/ft ³ - 8 in. Wood framed wall, 16in. OC, 0.5in., R-0 Gypsum Board - 3/8 in.	17161	Wood	0	NA	U-Factor: 0.419	N
Miramar R-21 Wall14	ExteriorWall	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Expanded Polystyrene - EPS - 2 2/5 in. R10 Metal framed wall, 16in. OC, 5.5in., R-21 Gypsum Board - 1/2 in.	71452	Metal	21	10	U-Factor: 0.064	N
Slab On Grade18	UndergroundFloor	Slab Type = UnheatedSlabOnGrade Insulation Orientation = None Insulation R-Value = R0	6217	NA	0	NA	F-Factor: 0.730	N
R-21 Wall34	InteriorWall	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Wood framed wall, 16in. OC, 5.5in., R-21 Gypsum Board - 1/2 in.	2442	Wood	21	NA	U-Factor: 0.066	N

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I. ENVELOPE DETAILS §120.7 & §140.3

II. OPAQUE SURFACE ASSEMBLY SUMMARY

1	2	3	4	5	6	7	8	9
Surface Name	Surface Type	Description of Assembly Layers	Area (ft ²)	Framing Type	Cavity R-Value	Continuous R-Value	U-Factor / F-Factor / C-Factor	Status ¹
Mirramar R-21 Wall141	UndergroundWall	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Expanded Polystyrene - EPS - 2 2/5 in. R10 Metal framed wall, 16in. OC, 5.5in., R-21 Gypsum Board - 1/2 in.	162	Metal	21	10	C-Factor: 0.068	N
Uninsulated Raised Slab F84	ExteriorFloor	Concrete - 140 lb/ft3 - 4 in. Carpet - 3/4 in.	78812	NA	0	NA	U-Factor: 0.265	N
R-30 Roof No Attic704	Roof	Asphalt shingles - 1/4 in. Vapor permeable felt - 1/8 in. Plywood - 1/2 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more Wood framed roof, 16in. OC, 11.25in., R-30 Gypsum Board - 1/2 in.	11844	Wood	30	NA	U-Factor: 0.034	N
R-19 Floor Crawlspace918	ExteriorFloor	Air - Floor - 3 1/2 in. Wood framed floor, 16in. OC, 5.5in., R-19 Plywood - 1/2 in. Carpet - 3/4 in.	99	Wood	19	NA	U-Factor: 0.047	N

¹ Status: N - New, A - Altered, E - Existing

II. OVERHANG DETAILS

This Section Does Not Apply

III. OPAQUE DOOR SUMMARY

1	2	3
Assembly Name	Overall U-factor	Status ¹
Insulated Door10	0.200	N

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J. CRRC ROOFING PRODUCT SUMMARY S140.3

1	2	3	4	5
Assembly Name	Roof Pitch	Aged Solar Reflectance	Thermal Emittance	SRI
R-30 Roof No Attic704	Low-Slope	0.10	0.85	Not Provided

K. HVAC SYSTEM SUMMARY §110.1 & §110.2

K1. Dry System Equipment (furnaces, air handling units, heat pumps, VRF, etc.)

Dry System Equipment ¹ (Fan & Economizer info included below in Table N)

1	2	3	4	5	6	7	8	9	10
Equipment Name	Equipment Type	Qty	Heating				Cooling		Status ⁵
			Total Heating Output (kBtu/h)	Supp Heat Source (Y/N)	Supp Heat Output (kBtuh)	Efficiency	Total Cooling Output (kBtu/h)	Efficiency	
FCU-# 001 & 006 Entry &	SZHP (Split1Phase)	1	19	No	0	HSPF-8.200	17	SEER-23.500 / EER-14.500	N
FCU-002 Property Manage	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-003 Conference	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-004 Record	SZHP (Split3Phase)	1	9	No	0	HSPF-11.00	9	SEER-20.00 / EER-13.00	N
FCU-005 Social Services	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-007 Mail	SZAC (Split3Phase)	1	9	No	0	AFUE-82.0	9	SEER-20.00 / EER-13.00	N
FCU-009 Common Goods	SZAC (Split3Phase)	1	9	No	0	AFUE-82.0	9	SEER-20.00 / EER-13.00	N
FCU-010 Fitness # 010	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-011 Yoga # 011	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N

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K1. Dry System Equipment (furnaces, air handling units, heat pumps, VRF, etc.)									
Dry System Equipment ¹ (Fan & Economizer info included below in Table N)									
1	2	3	4	5	6	7	8	9	10
Equipment Name	Equipment Type	Qty	Heating				Cooling		Status ⁵
			Total Heating Output (kBtu/h)	Supp Heat Source (Y/N)	Supp Heat Output (kBtu/h)	Efficiency	Total Cooling Output (kBtu/h)	Efficiency	
FCU-014 Storage 014	SZAC (Split3Phase)	1	9	No	0	AFUE-82.0	9	SEER-20.00 / EER-13.00	N
FCU-015 Maintanance Wo	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-016 Bike Storage 01	SZAC (Split3Phase)	1	9	No	0	AFUE-82.0	9	SEER-20.00 / EER-13.00	N
FCU-018 Community Room	SZHP (Split3Phase)	1	50	No	0	HSPF-8.20	46	SEER-20.50 / EER-12.50	N
FCU-020 Transformer Roo	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-101 Elevator Machine	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-224 Laundry	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-324 Laundry	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-424 Laundry	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-524 Laundry	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-624 Laundry	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-724 Laundry	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-124 Laundry	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-1.9 Community Space 1	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N

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K1. Dry System Equipment (furnaces, air handling units, heat pumps, VRF, etc.)									
Dry System Equipment ¹ (Fan & Economizer info included below in Table N)									
1	2	3	4	5	6	7	8	9	10
Equipment Name	Equipment Type	Qty	Heating				Cooling		Status ⁵
			Total Heating Output (kBtu/h)	Supp Heat Source (Y/N)	Supp Heat Output (kBtu/h)	Efficiency	Total Cooling Output (kBtu/h)	Efficiency	
FCU-1.10 Community Space	SZHP (Split1Phase)	2	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
MPOE Room	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-2nd Floor 1 Bedroom	SZHP (Split1Phase)	10	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-2nd -Floor STUDIOS	SZHP (Split1Phase)	11	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-213 214 2 Bedroom	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-3rd Floor 1 Bedroom	SZHP (Split1Phase)	10	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
3rd Floor Studios	SZHP (Split1Phase)	11	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-4th Floor 1 Bedroom	SZHP (Split1Phase)	10	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
4th Floor Studio	SZHP (Split1Phase)	11	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-5th Floor 1 Bedroo	SZHP (Split1Phase)	10	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
5th Floor Studios	SZHP (Split1Phase)	11	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-6th Floor 1 Bedroo	SZHP (Split1Phase)	10	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
6th Floor Studios	SZHP (Split1Phase)	11	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-7th Floor 1 Bedroo	SZHP (Split1Phase)	10	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N

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Input File Name:	20-139 Miramar Single Split System VERTICAL UNIT with Gas WH.cibd19x		

K1. Dry System Equipment (furnaces, air handling units, heat pumps, VRF, etc.)									
Dry System Equipment ¹ (Fan & Economizer info included below in Table N)									
1	2	3	4	5	6	7	8	9	10
Equipment Name	Equipment Type	Qty	Heating				Cooling		Status ⁵
			Total Heating Output (kBtu/h)	Supp Heat Source (Y/N)	Supp Heat Output (kBtu/h)	Efficiency	Total Cooling Output (kBtu/h)	Efficiency	
FCU-7th Floor Studios	SZHP (Split1Phase)	11	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-313 314 2 Bedroom	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-413 414 2 Bedroom	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-513 514 2 Bedroom	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-613 614 2 Bedroom	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-713 714 2 Bedroom	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-1.1 2-Bedroom	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-1.2 2-Bedroom	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-1.3 2-Bedroom	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-1.4 2-Bedroom	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-1.5 2-Bedroom	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-1.6 2-Bedroom	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-1.7 2-Bedroom	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N
FCU-1.8 2-Bedroom	SZHP (Split1Phase)	1	15	No	0	HSPF-11.000	12	SEER-20.500 / EER-12.500	N

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Input File Name:	20-139 Miramar Single Split System VERTICAL UNIT with Gas WH.cibd19x		

K1. Dry System Equipment (furnaces, air handling units, heat pumps, VRF, etc.)									
Dry System Equipment ¹ (Fan & Economizer info included below in Table N)									
1	2	3	4	5	6	7	8	9	10
Equipment Name	Equipment Type	Qty	Heating				Cooling		Status ⁵
			Total Heating Output (kBtu/h)	Supp Heat Source (Y/N)	Supp Heat Output (kBtu/h)	Efficiency	Total Cooling Output (kBtu/h)	Efficiency	

¹ Status: N - New, A - Altered, E - Existing

K2. ECONOMIZER & FAN SYSTEMS SUMMARY \$140.4 ¹												
1	2	3	4	5	6	7	8	9	10	11	12	13
Name or Item Tag	System Type	Design OA	Supply Fan				Return Fan				Economizer Type (if present)	Status ⁵
	packaged, DOAS, etc.	CFM	CFM	BHP	Watts	Control	CFM	BHP	Watts	Control		
FCU-# 001 & 006 Entry &	SZHP	563	760	0.300	261.6	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FCU-002 Property Manage	SZHP	45	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FCU-003 Conference	SZHP	85	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FCU-004 Record	SZHP	18	300	0.034	30.0	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FCU-005 Social Services	SZHP	45	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FCU-007 Mail	SZAC	50	260	0.034	30.0	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FCU-009 Common Goods	SZAC	24	260	0.034	30.0	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FCU-010 Fitness # 010	SZHP	75	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FCU-011 Yoga # 011	SZHP	60	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FCU-014 Storage 014	SZAC	20	260	0.034	30.0	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FCU-015 Maintanance Wo	SZHP	45	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N

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K2. ECONOMIZER & FAN SYSTEMS SUMMARY \$140.4 ¹												
1	2	3	4	5	6	7	8	9	10	11	12	13
Name or Item Tag	System Type	Design OA	Supply Fan				Return Fan				Economizer Type (if present)	Status ⁵
	packaged, DOAS, etc.	CFM	CFM	BHP	Watts	Control	CFM	BHP	Watts	Control		
FCU-016 Bike Storage 01	SZAC	150	260	0.034	30.0	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FCU-018 Community Room	SZHP	427	1800	0.500	436.0	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FCU-020 Transformer Roo	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FCU-101 Elevator Machine	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FCU-224 Laundry	SZHP	120	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FCU-324 Laundry	SZHP	120	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FCU-424 Laundry	SZHP	120	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FCU-524 Laundry	SZHP	120	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FCU-624 Laundry	SZHP	120	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FCU-724 Laundry	SZHP	120	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FCU-124 Laundry	SZHP	120	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FCU-1.9 Community Space 1	SZHP	126	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FCU-1.10 Community Space	SZHP	57	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
MPOE Room	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
FCU-2nd Floor 1 Bedroom	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N
FCU-2nd -Floor STUDIOS	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N
FCU-213 214 2 Bedroom	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N
FCU-3rd Floor 1 Bedroom	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N

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Input File Name:	20-139 Miramar Single Split System VERTICAL UNIT with Gas WH.cibd19x		

K2. ECONOMIZER & FAN SYSTEMS SUMMARY \$140.4 ¹												
1	2	3	4	5	6	7	8	9	10	11	12	13
Name or Item Tag	System Type	Design OA	Supply Fan				Return Fan				Economizer Type (if present)	Status ⁵
	packaged, DOAS, etc.	CFM	CFM	BHP	Watts	Control	CFM	BHP	Watts	Control		
3rd Floor Studios	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N
FCU-4th Floor 1 Bedroom	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N
4th Floor Studio	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N
FCU-5th Floor 1 Bedroo	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N
5th Floor Studios	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N
FCU-6th Floor 1 Bedroo	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N
6th Floor Studios	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N
FCU-7th Floor 1 Bedroo	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N
FCU-7th Floor Studios	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N
FCU-313 314 2 Bedroom	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N
FCU-413 414 2 Bedroom	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N
FCU-513 514 2 Bedroom	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N
FCU-613 614 2 Bedroom	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N
FCU-713 714 2 Bedroom	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N
FCU-1.1 2-Bedroom	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N
FCU-1.2 2-Bedroom	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N
FCU-1.3 2-Bedroom	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N
FCU-1.4 2-Bedroom	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N

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K2. ECONOMIZER & FAN SYSTEMS SUMMARY \$140.4¹

1	2	3	4	5	6	7	8	9	10	11	12	13
Name or Item Tag	System Type	Design OA	Supply Fan				Return Fan				Economizer Type (if present)	Status ⁵
	packaged, DOAS, etc.	CFM	CFM	BHP	Watts	Control	CFM	BHP	Watts	Control		
FCU-1.5 2-Bedroom	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N
FCU-1.6 2-Bedroom	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N
FCU-1.7 2-Bedroom	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N
FCU-1.8 2-Bedroom	SZHP	0	600	0.157	136.9	ConstantVolume	NA	NA	NA	NA	NA	N

¹ Status: N - New, A - Altered, E - Existing

K3. EXHAUST FAN SUMMARY

1	2	3	4	5	6	7
System ID	Zone Name	Qty	CFM	Motor BHP	Motor Watts	Total Static Pressure (in H2O)
# 224 Laundry199	19-# 224 Laundry	1	100	0.057	50.0	2.36
# 324 Laundry325	22-# 324 Laundry	1	100	0.057	50.0	2.36
# 424 Laundry447	25-# 424 Laundry	1	100	0.057	50.0	2.36
# 524 Laundry569	28-# 524 Laundry	1	100	0.057	50.0	2.36
# 624 Laundry691	31-# 624 Laundry	1	100	0.057	50.0	2.36
# 724 Laundry835	34-# 724 Laundry	1	100	0.057	50.0	2.36
# 524 Laundry905	48-# 524 Laundry	1	100	0.057	50.0	2.36

K4. Wet System Equipment (boilers, chillers, cooling towers, etc.)

1	2	3	4	5	6	7	8	9	10	11	12
Name or Item Tag	Equipment Type	Qty	Vol (gal)	Rated Capacity (kBtu/h)	Efficiency	Standby Loss	Pumps				Status ¹
							Qty	GPM	HP	VSD (Y/N)	

¹ Status: N - New, A - Altered, E - Existing

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K5. SYSTEM FEATURES §120.2					
1	2	3	4	5	6
System Name	Optimum Start	Window Interlocks per §140.4(n)	Evaporative Cooling	Heat Recovery	Other Controls
FCU-# 001 & 006 Entry &	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FCU-002 Property Manage	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FCU-003 Conference	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FCU-004 Record	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FCU-005 Social Services	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FCU-007 Mail	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FCU-009 Common Goods	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FCU-010 Fitness # 010	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FCU-011 Yoga # 011	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FCU-014 Storage 014	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FCU-015 Maintanance Wo	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control

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K5. SYSTEM FEATURES §120.2					
1	2	3	4	5	6
System Name	Optimum Start	Window Interlocks per §140.4(n)	Evaporative Cooling	Heat Recovery	Other Controls
FCU-016 Bike Storage 01	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FCU-018 Community Room	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FCU-020 Transformer Roo	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FCU-101 Elevator Machine	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FCU-224 Laundry	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FCU-324 Laundry	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FCU-424 Laundry	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FCU-524 Laundry	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FCU-624 Laundry	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FCU-724 Laundry	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FCU-124 Laundry	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control

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K5. SYSTEM FEATURES §120.2

1	2	3	4	5	6
System Name	Optimum Start	Window Interlocks per §140.4(n)	Evaporative Cooling	Heat Recovery	Other Controls
FCU-1.9 Community Space 1	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FCU-1.10 Community Space	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
MPOE Room	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
Miramar Plant2 - SHW	NA	NA	NA	NA	Fixed Temperature Control, No DDC

Notes: This table includes controls related to the performance path only. For projects using the prescriptive path, mandatory and prescriptive controls requirements are documented on the NRCC-MCH-E.

K6. MECHANICAL VENTILATION AND REHEAT §120.1

1	2	3	4	5	6	7	8	9
Zone Name	Mechanical Ventilation							DCV or Occupant Sensor Controls, or Both
	Ventilation Function	# hotel rooms	# of people	# of bedrooms	Supply OA CFM	Exhaust CFM	Conditioned Area (sf)	
1-Entry & Lobby Zone	Office - Main entry lobbies	0	8.00	0	563	0	1126	NA
2-Property Management Zone	Office - Office space	0	3.00	0	45	0	150	Occupant Sensor
3-Conference Zone	General - Conference/meeting	0	4.00	0	85	0	170	Occupant Sensor
4-Record Zone	Office - Office space	0	1.00	0	18	0	121	Occupant Sensor
5-Social Services # 005	Office - Office space	0	3.00	0	45	0	125	Occupant Sensor
6-Mail # 007 Zone	Office - Office space	0	1.00	0	50	0	330	Occupant Sensor
7-Common Goods # 009 Zone	Misc - Warehouses	0	1.00	0	24	0	158	NA
8-Fitness # 010 Zone	Sports/Entertainment - Health club/weight rooms	0	5.00	0	75	0	321	NA
9-Yoga # 011 Zone	Sports/Entertainment - Health club/weight rooms	0	4.00	0	60	0	239	NA

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K6. MECHANICAL VENTILATION AND REHEAT §120.1

1	2	3	4	5	6	7	8	9
Zone Name	Mechanical Ventilation							DCV or Occupant Sensor Controls, or Both
	Ventilation Function	# hotel rooms	# of people	# of bedrooms	Supply OA CFM	Exhaust CFM	Conditioned Area (sf)	
10-Storage # 014 Zone	Misc - Warehouses	0	1.00	0	20	0	136	NA
11-Maintanance Workshop # 01	Office - Office space	0	3.00	0	45	0	262	Occupant Sensor
12-Bike Storage 016 & Storag	Misc - Warehouses	0	1.00	0	150	0	1000	NA
13-Community Room # 018 Zo	Lodging - Multipurpose assembly	0	25.00	0	427	0	855	Occupant Sensor
14-Transformer Room # 020	Exhaust - Refrigerating machinery rooms	0	1.00	0	0	0	1225	NA
15-Elevator Machine Room #10	Exhaust - Refrigerating machinery rooms	0	1.00	0	0	0	268	NA
16-Unit # 201 1 Bedroom Z	NA	0	16.00	8	257	256.8	4560	NA
17-Unit # 202 Studio Zone	NA	0	20.00	10	291	291	4700	NA
18-Unit 213 214 Zone	NA	0	3.00	2	51	51.33	961	NA
19-# 224 Laundry	Lodging - Laundry rooms, central	0	8.00	0	120	100	113	NA
20-3rd Floor 1 Bedroom Zon	NA	0	20.00	10	321	321	5700	NA
21-3rd Floor Studio Zone	NA	0	22.00	11	320	320.1	5170	NA
22-# 324 Laundry	Lodging - Laundry rooms, central	0	8.00	0	120	100	113	NA
23-4th Floor 1 Bedroom Zon	NA	0	20.00	10	321	321	5700	NA
24-4th Floor Studio Zone	NA	0	44.00	33	485	485.1	5170	NA
25-# 424 Laundry	Lodging - Laundry rooms, central	0	8.00	0	120	100	113	NA
26-5th Floor 1 Bedroom Zo	NA	0	20.00	10	321	321	5700	NA
27-5th Floor Studio Zone	NA	0	22.00	11	320	320.1	5170	NA
28-# 524 Laundry	Lodging - Laundry rooms, central	0	8.00	0	120	100	113	NA
29-6th Floor 1 Bedroom Zo	NA	0	20.00	10	321	321	5700	NA

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K6. MECHANICAL VENTILATION AND REHEAT §120.1								
1	2	3	4	5	6	7	8	9
Zone Name	Mechanical Ventilation							DCV or Occupant Sensor Controls, or Both
	Ventilation Function	# hotel rooms	# of people	# of bedrooms	Supply OA CFM	Exhaust CFM	Conditioned Area (sf)	
30-6th Floor Studio Zone	NA	0	22.00	11	320	320.1	5170	NA
31-# 624 Laundry	Lodging - Laundry rooms, central	0	8.00	0	120	100	113	NA
32-7th Floor 1 Bedroom Zon	NA	0	20.00	10	321	321	5700	NA
33-7th Floor Studio Zone	NA	0	22.00	11	320	320.1	5170	NA
34-# 724 Laundry	Lodging - Laundry rooms, central	0	8.00	0	120	100	113	NA
35-Unit 313 314 Zone	NA	0	3.00	2	51	51.33	961	NA
36-Unit 413 414 Zone	NA	0	3.00	2	51	51.33	961	NA
37-Unit 513 514 Zone	NA	0	3.00	2	51	51.33	961	NA
38-Unit 613 614 Zone	NA	0	3.00	2	51	51.33	961	NA
39-Unit 713 714 Zone	NA	0	3.00	2	51	51.33	961	NA
40-FCU-01 Zone	NA	0	3.00	2	52	51.78	976	NA
41-Unit # 02 2-Bedroom Zon	NA	0	3.00	2	47	47.34	828	NA
42-Unit # 03 2-Bedroom Zon	NA	0	3.00	2	47	47.34	828	NA
43-Unit # 04 2-Bedroom Zon	NA	0	3.00	2	47	47.34	828	NA
44-Unit # 05 2-Bedroom Zon	NA	0	3.00	2	47	47.34	828	NA
45-Unit # 06 2-Bedroom Zon	NA	0	3.00	2	47	47.34	828	NA
46-Unit # 07 2-Bedroom Zon	NA	0	3.00	2	47	47.34	828	NA
47-Unit # 08' 2-Bedroom Zo	NA	0	3.00	2	47	47.34	828	NA
48-# 524 Laundry	Lodging - Laundry rooms, central	0	8.00	0	120	100	113	NA
49-Common Area Zone	Office - Office space	0	4.21	0	126	0	842	NA
50-Community Space 2	Office - Office space	0	3.82	0	115	0	764	NA
51-MPOE Room	Exhaust - Refrigerating machinery rooms	0	0.15	0	0	0	99	NA

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K7. DISTRIBUTION SUMMARY §120.4/140.4(I)

This Section Does Not Apply

Multifamily or Hotel/Motel Occupancy? (if “Yes”, see DOMESTIC/SERVICE HOT WATER SYSTEM SUMMARY)

Yes

Does the Project include Zonal Systems?

Yes

K8. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY § 140.4

1	2	3	4	5	6	7	8	9	10	11	12
System ID	Zone Name	System Type	Rated Capacity (kBtuh)		Airflow (cfm)			Fan			
			Heating	Cooling	Design	Min.	Min. Ratio	BHP	Watts	Cycles	ECM Motor
FCU-2nd Floor 1 Bedroom	16-Unit # 201 1 Bedroom Z	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
17-Unit # 201 1 Bedroom Z-EXH	16-Unit # 201 1 Bedroom Z	VentilationOnly ExhaustOnly	NA	NA	26	NA	NA	NA	40	☐	☐
FCU-2nd -Floor STUDIOS	17-Unit # 202 Studio Zone	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
18-Unit # 202 Studio Zone-EXH	17-Unit # 202 Studio Zone	VentilationOnly ExhaustOnly	NA	NA	26	NA	NA	NA	40	☐	☐
FCU-213 214 2 Bedroom	18-Unit 213 214 Zone	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
19-Unit 213 214 Zone-EXH	18-Unit 213 214 Zone	VentilationOnly ExhaustOnly	NA	NA	51	NA	NA	NA	40	☐	☐
FCU-3rd Floor 1 Bedroom	20-3rd Floor 1 Bedroom Zon	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
21-3rd Floor 1 Bedroom Zon-EXH	20-3rd Floor 1 Bedroom Zon	VentilationOnly ExhaustOnly	NA	NA	32	NA	NA	NA	40	☐	☐
3rd Floor Studios	21-3rd Floor Studio Zone	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
22-3rd Floor Studio Zone-EXH	21-3rd Floor Studio Zone	VentilationOnly ExhaustOnly	NA	NA	29	NA	NA	NA	10	☐	☐

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K8. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY § 140.4

1	2	3	4	5	6	7	8	9	10	11	12
System ID	Zone Name	System Type	Rated Capacity (kBtuh)		Airflow (cfm)			Fan			
			Heating	Cooling	Design	Min.	Min. Ratio	BHP	Watts	Cycles	ECM Motor
FCU-4th Floor 1 Bedroom	23-4th Floor 1 Bedroom Zon	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
24-4th Floor 1 Bedroom Zon-EXH	23-4th Floor 1 Bedroom Zon	VentilationOnly ExhaustOnly	NA	NA	32	NA	NA	NA	10	☐	☐
4th Floor Studio	24-4th Floor Studio Zone	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
25-4th Floor Studio Zone-EXH	24-4th Floor Studio Zone	VentilationOnly ExhaustOnly	NA	NA	44	NA	NA	NA	10	☐	☐
FCU-5th Floor 1 Bedroo	26-5th Floor 1 Bedroom Zo	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
27-5th Floor 1 Bedroom Zo-EXH	26-5th Floor 1 Bedroom Zo	VentilationOnly ExhaustOnly	NA	NA	32	NA	NA	NA	10	☐	☐
5th Floor Studios	27-5th Floor Studio Zone	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
28-5th Floor Studio Zone-EXH	27-5th Floor Studio Zone	VentilationOnly ExhaustOnly	NA	NA	29	NA	NA	NA	10	☐	☐
FCU-6th Floor 1 Bedroo	29-6th Floor 1 Bedroom Zo	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
30-6th Floor 1 Bedroom Zo-EXH	29-6th Floor 1 Bedroom Zo	VentilationOnly ExhaustOnly	NA	NA	32	NA	NA	NA	10	☐	☐
6th Floor Studios	30-6th Floor Studio Zone	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
31-6th Floor Studio Zone-EXH	30-6th Floor Studio Zone	VentilationOnly ExhaustOnly	NA	NA	29	NA	NA	NA	10	☐	☐
FCU-7th Floor 1 Bedroo	32-7th Floor 1 Bedroom Zon	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
33-7th Floor 1 Bedroom Zon-EXH	32-7th Floor 1 Bedroom Zon	VentilationOnly ExhaustOnly	NA	NA	32	NA	NA	NA	10	☐	☐

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K8. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY § 140.4											
1	2	3	4	5	6	7	8	9	10	11	12
System ID	Zone Name	System Type	Rated Capacity (kBtuh)		Airflow (cfm)			Fan			
			Heating	Cooling	Design	Min.	Min. Ratio	BHP	Watts	Cycles	ECM Motor
FCU-7th Floor Studios	33-7th Floor Studio Zone	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
34-7th Floor Studio Zone-EXH	33-7th Floor Studio Zone	VentilationOnly ExhaustOnly	NA	NA	29	NA	NA	NA	10	☐	☐
FCU-313 314 2 Bedroom	35-Unit 313 314 Zone	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
36-Unit 313 314 Zone-EXH	35-Unit 313 314 Zone	VentilationOnly ExhaustOnly	NA	NA	51	NA	NA	NA	262	☐	☐
FCU-413 414 2 Bedroom	36-Unit 413 414 Zone	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
37-Unit 413 414 Zone-EXH	36-Unit 413 414 Zone	VentilationOnly ExhaustOnly	NA	NA	51	NA	NA	NA	10	☐	☐
FCU-513 514 2 Bedroom	37-Unit 513 514 Zone	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
38-Unit 513 514 Zone-EXH	37-Unit 513 514 Zone	VentilationOnly ExhaustOnly	NA	NA	51	NA	NA	NA	10	☐	☐
FCU-613 614 2 Bedroom	38-Unit 613 614 Zone	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
39-Unit 613 614 Zone-EXH	38-Unit 613 614 Zone	VentilationOnly ExhaustOnly	NA	NA	51	NA	NA	NA	10	☐	☐
FCU-713 714 2 Bedroom	39-Unit 713 714 Zone	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
40-Unit 713 714 Zone-EXH	39-Unit 713 714 Zone	VentilationOnly ExhaustOnly	NA	NA	51	NA	NA	NA	10	☐	☐
FCU-1.1 2-Bedroom	40-FCU-01 Zone	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
41-FCU-01 Zone-EXH	40-FCU-01 Zone	VentilationOnly ExhaustOnly	NA	NA	52	NA	NA	NA	40	☐	☐

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K8. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY § 140.4

1	2	3	4	5	6	7	8	9	10	11	12
System ID	Zone Name	System Type	Rated Capacity (kBtuh)		Airflow (cfm)			Fan			
			Heating	Cooling	Design	Min.	Min. Ratio	BHP	Watts	Cycles	ECM Motor
FCU-1.2 2-Bedroom	41-Unit # 02 2-Bedroom Zon	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
42-Unit # 02 2-Bedroom Zon-EXH	41-Unit # 02 2-Bedroom Zon	VentilationOnly ExhaustOnly	NA	NA	47	NA	NA	NA	40	☐	☐
FCU-1.3 2-Bedroom	42-Unit # 03 2-Bedroom Zon	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
43-Unit # 03 2-Bedroom Zon-EXH	42-Unit # 03 2-Bedroom Zon	VentilationOnly ExhaustOnly	NA	NA	47	NA	NA	NA	40	☐	☐
FCU-1.4 2-Bedroom	43-Unit # 04 2-Bedroom Zon	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
44-Unit # 04 2-Bedroom Zon-EXH	43-Unit # 04 2-Bedroom Zon	VentilationOnly ExhaustOnly	NA	NA	47	NA	NA	NA	40	☐	☐
FCU-1.5 2-Bedroom	44-Unit # 05 2-Bedroom Zon	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
45-Unit # 05 2-Bedroom Zon-EXH	44-Unit # 05 2-Bedroom Zon	VentilationOnly ExhaustOnly	NA	NA	47	NA	NA	NA	40	☐	☐
FCU-1.6 2-Bedroom	45-Unit # 06 2-Bedroom Zon	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
46-Unit # 06 2-Bedroom Zon-EXH	45-Unit # 06 2-Bedroom Zon	VentilationOnly ExhaustOnly	NA	NA	47	NA	NA	NA	40	☐	☐
FCU-1.7 2-Bedroom	46-Unit # 07 2-Bedroom Zon	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
47-Unit # 07 2-Bedroom Zon-EXH	46-Unit # 07 2-Bedroom Zon	VentilationOnly ExhaustOnly	NA	NA	47	NA	NA	NA	40	☐	☐
FCU-1.8 2-Bedroom	47-Unit # 08` 2-Bedroom Zo	SZHP	15.00	12.00	600	NA	NA	0.157	136.9	☐	☐
48-Unit # 08` 2-Bedroom Zo-EXH	47-Unit # 08` 2-Bedroom Zo	VentilationOnly ExhaustOnly	NA	NA	47	NA	NA	NA	40	☐	☐

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K8. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY § 140.4

1	2	3	4	5	6	7	8	9	10	11	12
System ID	Zone Name	System Type	Rated Capacity (kBtuh)		Airflow (cfm)			Fan			
			Heating	Cooling	Design	Min.	Min. Ratio	BHP	Watts	Cycles	ECM Motor
1-Entry & Lobby Zone-Trm	1-Entry & Lobby Zone	Uncontrolled	NA	NA	760	NA	0.00	NA	NA	NA	☐
2-Property Management Zone-Trm	2-Property Management Zone	Uncontrolled	NA	NA	600	NA	0.00	NA	NA	NA	☐
3-Conference Zone-Trm	3-Conference Zone	Uncontrolled	NA	NA	600	NA	0.00	NA	NA	NA	☐
4-Record Zone-Trm	4-Record Zone	Uncontrolled	NA	NA	300	NA	0.00	NA	NA	NA	☐
5-Social Services # 005-Trm	5-Social Services # 005	Uncontrolled	NA	NA	600	NA	0.00	NA	NA	NA	☐
6-Mail # 007 Zone-Trm	6-Mail # 007 Zone	Uncontrolled	NA	NA	260	NA	0.00	NA	NA	NA	☐
7-Common Goods # 009 Zone-Trm	7-Common Goods # 009 Zone	Uncontrolled	NA	NA	260	NA	0.00	NA	NA	NA	☐
8-Fitness # 010 Zone-Trm	8-Fitness # 010 Zone	Uncontrolled	NA	NA	600	NA	0.00	NA	NA	NA	☐
9-Yoga # 011 Zone-Trm	9-Yoga # 011 Zone	Uncontrolled	NA	NA	600	NA	0.00	NA	NA	NA	☐
10-Storage # 014 Zone-Trm	10-Storage # 014 Zone	Uncontrolled	NA	NA	260	NA	0.00	NA	NA	NA	☐
11-Maintanance Workshop # 01-Trm	11-Maintanance Workshop # 01	Uncontrolled	NA	NA	600	NA	0.00	NA	NA	NA	☐
12-Bike Storage 016 & Storag-Trm	12-Bike Storage 016 & Storag	Uncontrolled	NA	NA	260	NA	0.00	NA	NA	NA	☐
13-Community Room # 018 Zo-Trm	13-Community Room # 018 Zo	Uncontrolled	NA	NA	1800	NA	0.00	NA	NA	NA	☐
14-Transformer Room # 020-Trm	14-Transformer Room # 020	Uncontrolled	NA	NA	600	NA	0.00	NA	NA	NA	☐
15-Elevator Machine Room #10-Trm	15-Elevator Machine Room #10	Uncontrolled	NA	NA	600	NA	0.00	NA	NA	NA	☐
19-# 224 Laundry-Trm	19-# 224 Laundry	Uncontrolled	NA	NA	600	NA	0.00	NA	NA	NA	☐
22-# 324 Laundry-Trm	22-# 324 Laundry	Uncontrolled	NA	NA	600	NA	0.00	NA	NA	NA	☐

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K8. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY § 140.4

1	2	3	4	5	6	7	8	9	10	11	12
System ID	Zone Name	System Type	Rated Capacity (kBtuh)		Airflow (cfm)			Fan			
			Heating	Cooling	Design	Min.	Min. Ratio	BHP	Watts	Cycles	ECM Motor
25-# 424 Laundry-Trm	25-# 424 Laundry	Uncontrolled	NA	NA	600	NA	0.00	NA	NA	NA	☐
28-# 524 Laundry-Trm	28-# 524 Laundry	Uncontrolled	NA	NA	600	NA	0.00	NA	NA	NA	☐
31-# 624 Laundry-Trm	31-# 624 Laundry	Uncontrolled	NA	NA	600	NA	0.00	NA	NA	NA	☐
34-# 724 Laundry-Trm	34-# 724 Laundry	Uncontrolled	NA	NA	600	NA	0.00	NA	NA	NA	☐
48-# 524 Laundry-Trm	48-# 524 Laundry	Uncontrolled	NA	NA	600	NA	0.00	NA	NA	NA	☐
49-Common Area Zone-Trm	49-Common Area Zone	Uncontrolled	NA	NA	600	NA	0.00	NA	NA	NA	☐
50-Community Space 2-Trm	50-Community Space 2	Uncontrolled	NA	NA	1200	NA	0.00	NA	NA	NA	☐
51-MPOE Room-Trm	51-MPOE Room	Uncontrolled	NA	NA	600	NA	0.00	NA	NA	NA	☐

K9. EVAPORATIVE COOLER SUMMARY

This Section Does Not Apply

L. DOMESTIC/SERVICE HOT WATER SYSTEM SUMMARY

L1. DHW EQUIPMENT SUMMARY

1	2	3	4	5	6	7	8	9	10	11
DHW Name	Heater Element Type	Tank Type	Qty	Tank Vol (gal)	Rated Input (kBtu/h)	Efficiency	Tank Insulation R-value (Int/Ext)	Standby Loss Fraction	Heat Pump Type	Tank Location or Ambient Condition
TORUS 15001	Gas	Instantaneous	3	13.00	1,500	Thrm. Eff.: 0.95	NA	SBLF: 0.303	NA	NA
TORUS 15001 2	Gas	Commercial Instantaneous (TE)	3	13.00	1500	Thrm. Eff.: 0.950	/	NA	NA	Unconditioned

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L2. MULTI-FAMILY HOTEL/MOTEL CENTRAL DHW SYSTEM DETAILS										§ 110.3	
1.	2.	3.	4.	5.	6.	7.		8.			
System Name	Configuration	Type	Qty in System	Central Dist. Type	Unit Dist. Type	Recirculating Pump		Piping Length			
						Efficiency	BHP	Plenum	Outside	Buried	Add ½" Insulation (HERS)
MFO-TORUS 15001	"DHW System"	Central	3	Demand Control	NA	0.60	0.50				

L3. SOLAR HOT WATER HEATING SUMMARY										§ RA4
1.	2. Collector									
System Name	Manufacturer	Brand	Model	Cert. ID	Count	Area ft ²	Slope W/m ² °C	Y Intercept	Azimuth from N (deg)	Tilt from horz.(deg)
Solar-DHW	ergSol, Inc.	ergSol	ergSol 303df	2011110C	25	51.5806	-1.716	0.49	0	0

L3. SOLAR HOT WATER HEATING SUMMARY									
1.	2. Software			3. Storage		4.			
Name	Name of program used		Version	Tank Volume (gallons)		# of Dwelling Units Served			
Solar-DHW	CSE		CSE19 0.867.0 EXE	0		137			

M. COVERED PROCESS SUMMARY §140.9
This Section Does Not Apply

N. INDOOR LIGHTING SUMMARY §140.6

N1. INDOOR CONDITIONED LIGHTING GENERAL INFO § 140.6 ¹							
1	2	3	4	5		Confirmed	
Occupancy Type ¹	Conditioned Floor Area ² (ft ²)	Installed Lighting Power (Watts)	Lighting Control Credits (Watts)	Additional (Custom) Allowance		Pass	Fail
				Area Category Footnotes (Watts)	Tailored Method (Watts)		
Main Entry Lobby	1,126	957	0	0	0	☐	☐

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N1. INDOOR CONDITIONED LIGHTING GENERAL INFO § 140.6 ¹							
						Confirmed	
1	2	3	4	5		Pass	Fail
Occupancy Type ¹	Conditioned Floor Area ² (ft²)	Installed Lighting Power (Watts)	Lighting Control Credits (Watts)	Additional (Custom) Allowance			
				Area Category Footnotes (Watts)	Tailored Method (Watts)		
Office Area (<250 square feet)	988	692	0	0	0	☐	☐
Convention, Conference, Multipurpose and Meeting Area	1,025	872	0	0	0	☐	☐
Commercial/Industrial Storage (Warehouse)	1,294	582	0	0	0	☐	☐
Exercise/Fitness Center and Gymnasium Areas	560	280	0	0	0	☐	☐
Electrical, Mechanical, Telephone Rooms	1,592	636	0	0	0	☐	☐
High-Rise Residential Living Spaces	76,148		0	0	0	☐	☐
Laundry Area	791	357	0	0	0	☐	☐
Office Area (>250 square feet)	1,606	1,044	0	0	0	☐	☐
Building Totals:	85,130	5,420	0	0	0		

¹ See Table 140.6-C

² See NRCC-LTI-01-E for unconditioned spaces

³ Lighting information for existing spaces modeled is not included in the table

N2. INDOOR CONDITIONED LIGHTING SCHEDULE § 130.0
This Section Does Not Apply

¹ If lighting power densities were used in the compliance model Building Departments will need to check prescriptive forms for Luminaire Schedule details.

N3. INDOOR CONDITIONED LIGHTING CONTROL CREDITS § 140.6
This Section Does Not Apply

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N4: INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROLS § 130.1

This Section Does Not Apply

§130.1(a) = Manual area controls; §130.0(b) = Multi Level; §130.1(c) = Auto Shut-Off; §130.1(d) = Mandatory Daylight; §130.1(e) = Demand Responsive

N5. TAILORED METHOD CONDITIONED LIGHTING POWER ALLOWANCE SUMMARY AND CHECKLIST § 140.6

General lighting power (see Table D)	0
General lighting power from special function areas (see Table E)	NA
Additional "use it or lose it" (See Table G)	0
Total watts	0

N6. GENERAL LIGHTING POWER § 140.6-D

This Section Does Not Apply

N7. GENERAL LIGHTING FROM SPECIAL FUNCTION AREAS § 140.6(c) 3H

Room Number	Primary Function Area	Illuminance Value (LUX)	Room Cavity Ratio (Table G)	Allowed LPD	Floor Area (ft²)	Allowed Watts	Confirmed	
							Pass	Fail
NA	NA	NA	NA	NA	NA	NA	☐	☐

Note: Tailored Method for Special Function Areas is not currently implemented

N8. ROOM CAVITY RATIO

Rectangular Spaces							
Room Number	Task/Activity Description	Room Length (ft)	Room Width (ft)	Room Cavity Height (ft)	RCR	Confirmed	
						Pass	Fail
NA	NA	NA	NA	NA	NA	☐	☐

Non-Rectangular Spaces

This Section Does Not Apply

Note: All applicable spaces are listed under the Non-Rectangular Spaces table

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N9. ADDITIONAL "USE IT OR LOSE IT"						
1.	2.	3.	4.	Allowed Watts	Confirmed	
Wall Display	Combined Floor Display and Task Lighting	Combined Ornamental and Special Effects Lighting	Very Valuable Merchandise		Pass	Fail
0	0	0	0	0	☐	☐

N10. Wall Display
This Section Does Not Apply

N11. Floor Display and Task Lighting
This Section Does Not Apply

N12. Combined Ornamental and Special Effects Lighting
This Section Does Not Apply

N13. Very Valuable Merchandise
This Section Does Not Apply

N14. INDOOR & OUTDOOR LIGHTING ACCEPTANCE TESTS & FORMS § 130.4							
Declaration of Required Acceptance Certificates (NRCA) –Acceptance Certificates that must be verified in the field. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).							
Test Description		Indoor			Outdoor	Confirmed	
		NRCA-LTI-02-A	NRCA-LTI-03-A	NRCA-LTI-04-A	NRCA-LTO-02-A	Pass	Fail
Equipment Requiring Testing or Verification	# of units	Occ Sensors / Auto Time Switch	Auto Daylight	Demand Responsive	Outdoor Controls		
Occupant Sensors	0	☒	☐	☐	☐	☐	☐
Automatic Time Switch	0	☒	☐	☐	☐	☐	☐
Automatic Daylighting	0	☐	☐	☐	☐	☐	☐
Demand Responsive	1	☐	☐	☒	☐	☐	☐
Outdoor Controls	0	☐	☐	☐	☐	☐	☐

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O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Installation must be submitted for the features to be recognized for compliance. These documents must be retained and 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/

Building Component	YES	NO	Form/Title	Field Inspector	
				Pass	Fail
Envelope	☒	☐	NRCI-ENV-01-E - Must be submitted for all buildings	☐	☐
Mechanical	☒	☐	NRCI-MCH-01-E - Must be submitted for all buildings	☐	☐
Plumbing	☒	☐	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 system distribution systems to be recognized for compliance	☐	☐
	☐	☒	NRCI-PLB-21-E - Must be HERS verified for central systems in high-rise residential hotel/ motel application	☐	☐
	☐	☒	NRCI-PLB-22-E - Must be HERS verified for single dwelling unit systems in high-rise residential, hotel/motel application	☐	☐
	☒	☐	NRCI-STH-01-E - Must be submitted for solar hot water heating systems	☐	☐
Indoor Lighting	☒	☐	NRCI-LTI-01-E - Must be submitted for all buildings	☐	☐
	☐	☒	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	☐	☐
	☐	☒	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	☐	☐
	☐	☒	NRCI-LTI-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance	☐	☐
	☐	☒	NRCI-LTI-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance	☐	☐
Covered Process	☐	☒	NRCI-PRC-01-E - Must be submitted for all Covered Processes	☐	☐

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P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. 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: https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Building Component	YES	NO	Form/Title	Field Inspector	
				Pass	Fail
Envelope	☒	☐	NRCA-ENV-02-F - NRFC label verification for fenestration	☐	☐
	☐	☐	NRCA-ENV-03-F - Daylighting Design PAFs	☐	☐
Indoor Lighting	☒	☐	NRCA-LTI-02-A - Occupancy Sensors and Automatic Time Switch Controls	☐	☐
	☐	☒	NRCA-LTI-03-A - Automatic Daylight Controls	☐	☐
	☒	☐	NRCA-LTI-04-A - Demand Responsive Lighting Controls	☐	☐
	☐	☒	NRCA-LTI-05-A - Institutional Tuning Power Adjustment Factor (PAF)	☐	☐
Covered Process	☐	☒	NRCA-PRC-02-F - Kitchen Exhaust	☐	☐
	☐	☒	NRCA-PRC-03-F - Garage Exhaust	☐	☐
	☐	☒	NRCA-PRC-12-F – Elevator Lighting and Ventilation Controls	☐	☐
	☐	☒	NRCA-PRC-13-F – Escalator and Moving Walkways Speed Control	☐	☐
	☐	☒	NRCA-PRC-14-F – Lab Exhaust Ventilation System	☐	☐
	☐	☒	NRCA-PRC-15-F - Fume Hood Automatic Sash Closures System	☐	☐

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P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. 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: https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Building Component	YES	NO	Form/Title	Field Inspector	
				Pass	Fail
Mechanical	☒	☐	NRCA-MCH-02-A Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH02-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	☐	☐
	☐	☒	NRCA-MCH-04(a)-H Air Distribution Duct Leakage - HERS Verification required	☐	☐
	☐	☐	NRCA-MCH-04(b)-A Air Distribution Duct Leakage - ATT only	☐	☐
	☐	☒	NRCA-MCH-05-A Air Economizer Controls	☐	☐
	☐	☒	NRCA-MCH-06-A Demand Control Ventilation Systems Acceptance 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 (CO2) 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	☐	☐
	☐	☒	NRCA-MCH-15-A Thermal Energy Storage (TES) System Acceptance	☐	☐
	☐	☒	NRCA-MCH-16-A Supply Air Temperature Reset Controls	☐	☐
	☐	☒	NRCA-MCH-17-A Condenser Water Temperature Reset Controls	☐	☐
	☐	☒	NRCA-MCH-18 Energy Management Control Systems	☐	☐
	☐	☒	NRCA-MCH-19 Occupancy Sensor Controls	☐	☐

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Q. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Verification must be submitted for the features to be recognized for compliance. These documents must be retained and 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/NRCV/

Building Component	YES	NO	Form/Title	Field Inspector	
				Pass	Fail
Mechanical	☐	☒	NRCV-MCH-04-H Duct Leakage Test	☐	☐
	☒	☐	NRCV-MCH-24-H Enclosure Air Leakage	☐	☐
	☒	☐	NRCV-MCH-27 Indoor Air Quality & Mechanical Ventilation	☐	☐
	☒	☐	NRCV-MCH-32-H Local Mechanical Exhaust	☐	☐
Plumbing	☐	☒	NRCV-PLB-21-H - HERS verified central systems in high-rise residential, hotel/motel application	☐	☐
	☐	☒	NRCV-PLB-22-H - HERS verified single dwelling unit systems in high-rise residential, hotel/motel application	☐	☐

R. UNMET LOAD HOURS

This Section Does Not Apply

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT			
<i>I certify that this Certificate of Compliance documentation is accurate and complete.</i>			
Documentation Author Name: Budlong HVAC Designer		Signature:	
Company: Budlong & Associates			
Address: 315 Arden Avenue, No. 23		Signature Date: 2020-07-13	
City/State/Zip: Glendale CA 91203		CEA/ HERS Certification Identification (if applicable):	
Phone: 818-638-8780			
RESPONSIBLE PERSON'S DECLARATION STATEMENT			
<i>I certify the following under penalty of perjury, under the laws of the State of California:</i>			
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 Envelope Designer Name:		Signature:	
Company: Brooks & Scarpa			
Address: 3929 W 139th St.		Date Signed:	
City/State/Zip: Hawthorne CA 90250			
Phone: 323-596-4700		Title:	License #:
Responsible Lighting Designer Name:		Signature:	
Company:			
Address:		Date Signed:	
City/State/Zip:			
Phone:		Title:	License #:
Responsible Mechanical Designer Name: Sunil Patel		Signature:	
Company: Budlong & Associates			
Address: 315 Arden Avenue		Date Signed:	
City/State/Zip: Glendale CA 91203			
Phone: (818) 638-8780		Title:	License #: 29448

Appendix B

Water Use Analysis

2020

1917 – 2005 ½ West 3rd Street, Los Angeles, CA 90057- Affordable Housing (Water Use Analysis)

6/25/2020

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1. Introduction

The project is in Westlake/Los Angeles (1917 – 2005 ½ West 3rd Street, Los Angeles, CA 90057). It is a 137-unit 100% affordable housing project with 7 stories + 1 basement level. It is measured to be +/- 95779 SF for interior units and 10,607 SF for the amenity areas. The project will be Type III-A (5 levels) over I-A podium (3 levels). The typical residential floor is a double loaded corridor consisting of studios, 1-bedroom and 2-bedroom units.

The unit analysis for this project is as follows,

Total	
Type	Units
Studio	64
1 Bedroom	59
2 Bedroom	14
Total Units	137

Following are the assumptions taken while doing the baseline calculations.

1. For 137 Units, occupancy is estimated as 332.

(The latest Citywide average household size is 2.42 residents per housing unit, based on [2017 Census American Community Survey 5-Year Estimate data \(2013–2017\)](#), per correspondence with Jack Tsao, Housing Planner, Los Angeles Department of City Planning, July 31, 2019.)

2. Potable water daily usage for irrigation of area of 11,000 SF is considered as **334 gallons per day.**

TINA CHEE LANDSCAPE STUDIO												
06/09/2020												
NEW MIRAMAR (including easement area) - ESTIMATED WATER USE												
Month	January	February	March	April	May	June	July	August	September	October	November	December
Monthly ET	2.2	3.23	3.26	4.4	5.82	5.16	6.83	6.9	5.2	4.46	2.6	1.51
Daily ET	0.07	0.09	0.11	0.15	0.17	0.16	0.2	0.18	0.18	0.13	0.09	0.06
Days	31	28	31	30	31	30	31	31	30	31	30	31
Daily Water Use - Gallons	176	227	227	378	429	454	505	454	454	328	227	151
Monthly Water Use - Gallons	5,456	6,356	7,037	11,340	13,299	13,620	15,655	14,074	13,620	10,168	6,810	4,681
Annual Water Use- Gallons	122,116											
Annual ET	90.1											
Irrigation Area - sf	11,000											
Irrigation Efficiency	0.81											
Average Plant Factor	0.3-0.6											

An average of the estimated water use per month is taken into consideration while finalizing this number.

2. Report:

1917 – 2005 ½ West 3rd Street, Los Angeles, CA 90057 - Affordable Housing

Water Use Analysis

Water Use Calculation Table						
Fixture Type	Flow Rate** (gpm or gpf)	Duration (min or # flush)	Daily Uses	Occupants*		Gallons Per Day
Residential Water Use						
Showerheads	1.8	8	1	332	=	4780.8
Lavatory faucets	1.2	0.25	5	332	=	498
Kitchen faucets	1.5	4	1	332	=	1992
Tank water closets(M)	1.28	1	5	166	=	1062.4
Tank water closets(F)	1.28	1	5	166	=	1062.4
Subtotal						= 9395.6
Clothes washers (gal/person-day)***	5.1			332	=	1693.2
Dishwashers (gal/person-day)****	0.4			332	=	132.8
Potable Water irrigation (daily)*****					=	334
Total Daily Baseline Water Use (BWU) in Gallons Per Day						= 11555.6
Average use per Household per Day= 11116.2/332						= 34.8

Current Projected Water Use per Multi- Family Household (MWD February 2020 Report covering fiscal years July 2018 -July 2019, (PG. 29.) Gallons Per Capita Per Day of 131 X EIR estimate of 2.42 occupants per residential unit*	=	317.02
Water Use per Unit Day (inc. appliance and landscape water consumption)	=	34.8
Percent Reduction from MWD baseline	=	89.02

Assumptions:

*137 units = 332 estimated occupants, based on 2.42 residents/unit (The latest Citywide average household size is 2.42 residents per housing unit, based on 2017 Census American Community Survey 5-Year Estimate data (2013–2017), www.census.gov/programs-surveys/acs/technical-documentation/table-and-geography-changes/2015/5-year.html, per correspondence with Jack Tsao, Housing Planner, Los Angeles Department of City Planning, July 31, 2019.)

** Flow rates are the maximum allowed under City of Los Angeles Green Building Code (Form GRN 17).

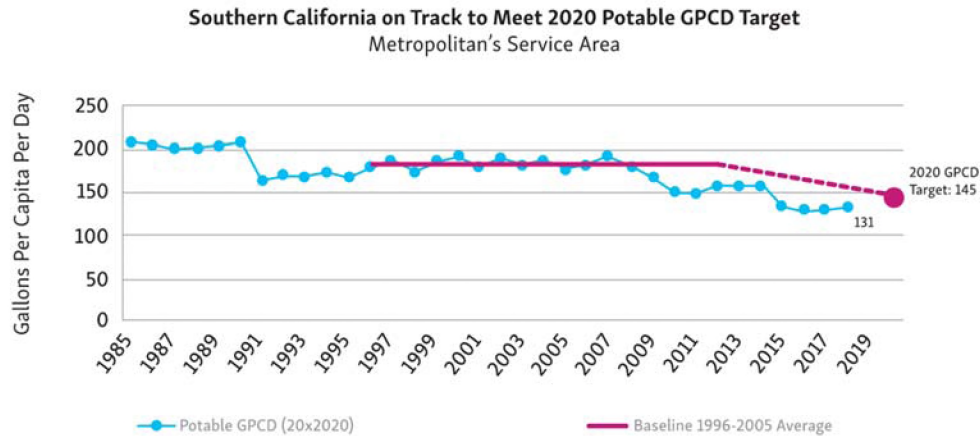
***Clothes Washers assumed for common use on each floor. Los Angeles Green Building Code requires Energy Star certified units. Typical Energy Star unit = 3.2 WF (Water Factor) = 5.08 gal per person per day.

****Dishwasher assumed in each unit. Los Angeles Green Building Code requires Energy Star certified units. Typical Energy Star unit = 4 GPC (Gallons per Cycle) = 0.43 gal per person per day.

***** Irrigation water use per previous landscape architect estimate using efficient irrigation system for similar project. Calculation incorporates all code-required measures.

3. Discussion:

The water baseline for the project is set with help of *MWD- February 2020 Covering Fiscal Year (July 2018 – June 2019)*. 131 GPCD (Gallons Per Capita Per Day) is considered as per the calendar year data available from 1985 to 2019.



Notes about the graph:

1. Calendar year data

2. 2018 GPCD is based on best available data (as of July 2019) and is subject to reconciliation. Data is received in 2019 for the previous calendar year.

3. Baseline per capita water use based on 1996-2005 average (181 GPCD)

4. Target GPCD for 2020 based on 20% reduction from baseline (145 GPCD)

Water baseline for this project is 131 GPCD (As per MED report) X 2.42 (Occupants per unit) = 317.02 GPCD. Against it only 34.8 GPCD water consumption is found inclusive of appliance and landscape. Its only 11.40 % part from total baseline GPCD. So, the percent reduction from MWD baseline is $(100\% - 10.98\% = 89.02\%)$.

Its better result as the water usage for the building is getting reduced by 89% from the baseline acceptance.