IDeAs Z2 DesIgn FAcIlIty, San Jose (Credit: David Wakely)

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San José Reach Code

December 17, 2019

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

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Agenda

- Background
- Reach Code Requirements
- Review of Requirements
- Examples of Requirements

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George V. Leyva Middle School, San Jose (Credit: KaraGeorge Studios)

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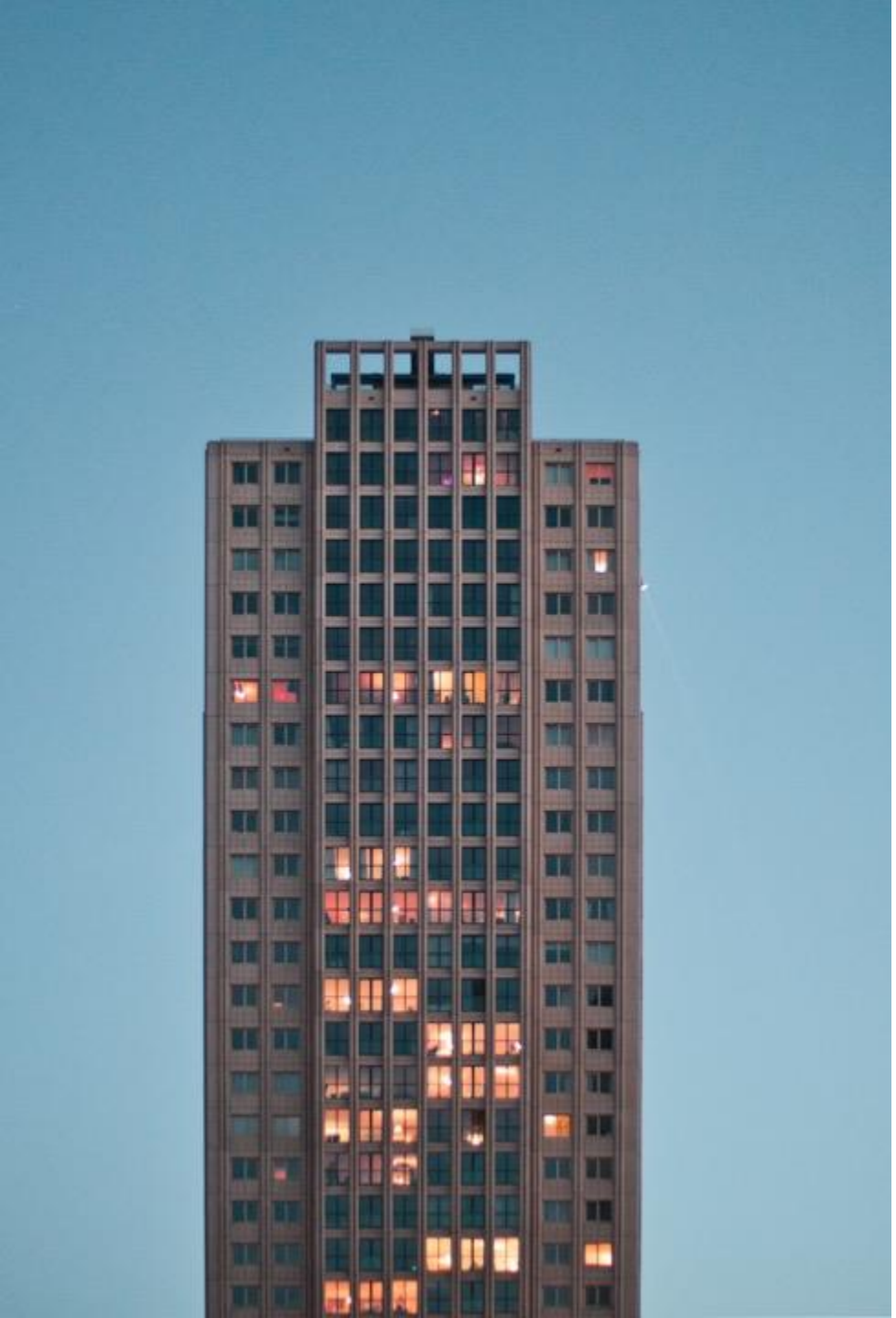
Background



What is a Reach Code?

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Minimum Base Codes

- Set minimum levels of efficiency for building design and construction

Reach Codes

- Overlays the base code
- Includes additional requirements, such as:
  - Energy efficiency
  - Water efficiency
  - **Electrification**
  - **EV charging infrastructure**
  - **Solar PV**

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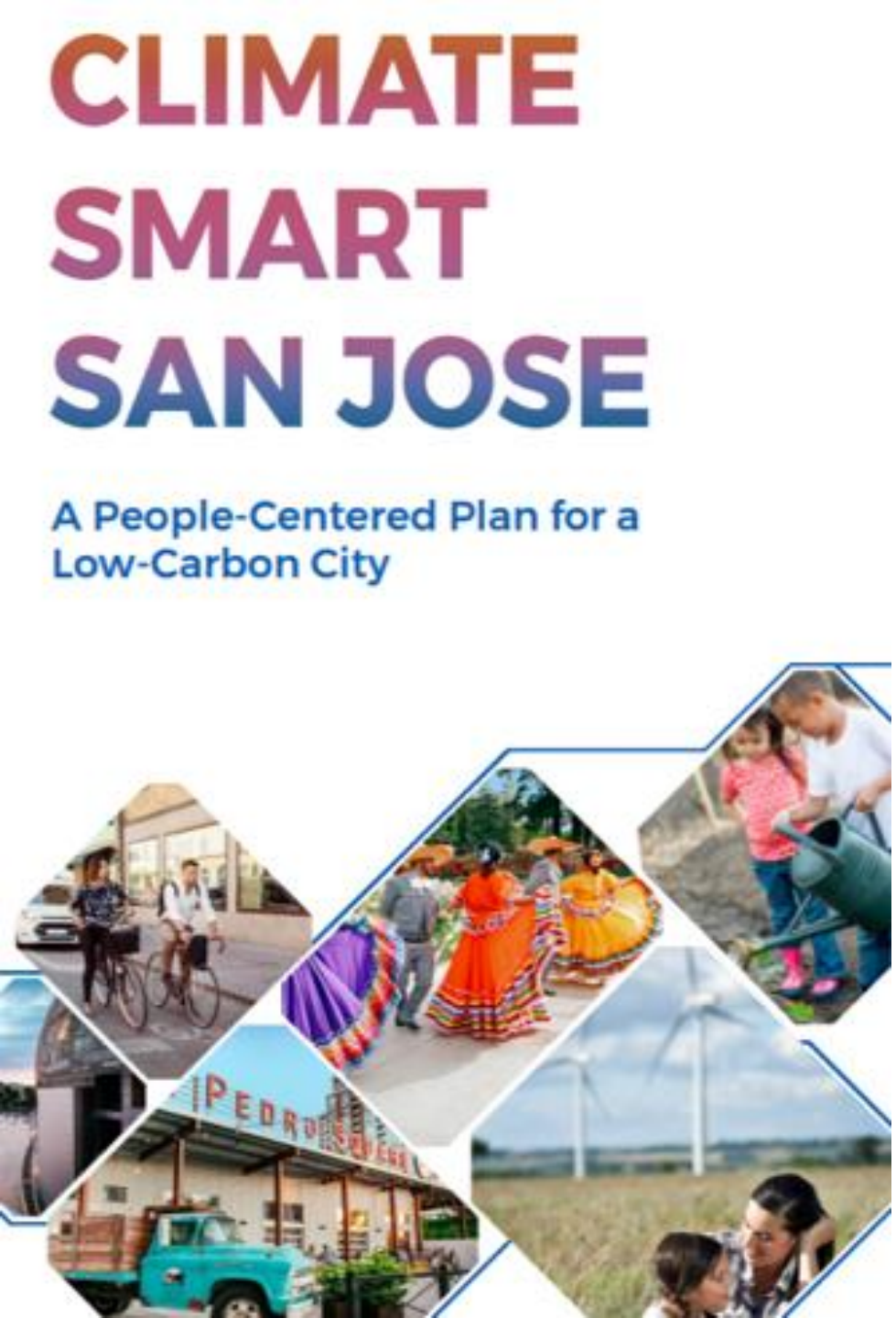

Why has San José Adopted a Reach Code?

Goals for 2030

- 47% of homes are all-electric
- 37,975 zero net carbon (ZNC) homes
- 70M sf of ZNC commercial buildings
- 61% of all passenger vehicles are electric
- 668 MW of solar installed

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CLIMATE SMART SAN JOSE

A People-Centered Plan for a Low-Carbon City

Building Electrification

- 47% of homes are all-electric
- 37,975 zero net carbon (ZNC) homes
- 70M sf of ZNC commercial buildings

EV charging infrastructure

- 61% of all passenger vehicles are electric

Solar PV

- 668 MW of solar installed

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What's already included in the Title 24?

	2016	2019
Building Electrification	None	Electrification-ready water heating for low-rise residential
Electric Vehicle Charging Infrastructure	EV parking requirements for single family, multifamily and commercial (San Jose CAL Green)	More extensive EV parking requirements
Solar PV	Solar readiness for single-family, multi-family (up to 10 stories) & low-rise commercial (except healthcare)	+ Mandatory PV for low-rise residential

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Cottle Zero Net Energy Home, San Jose (Credit: DOE)

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Reach Code Requirements

Reach Code Requirements

- Building Electrification
- Electric Vehicle Charging Infrastructure
- Solar PV

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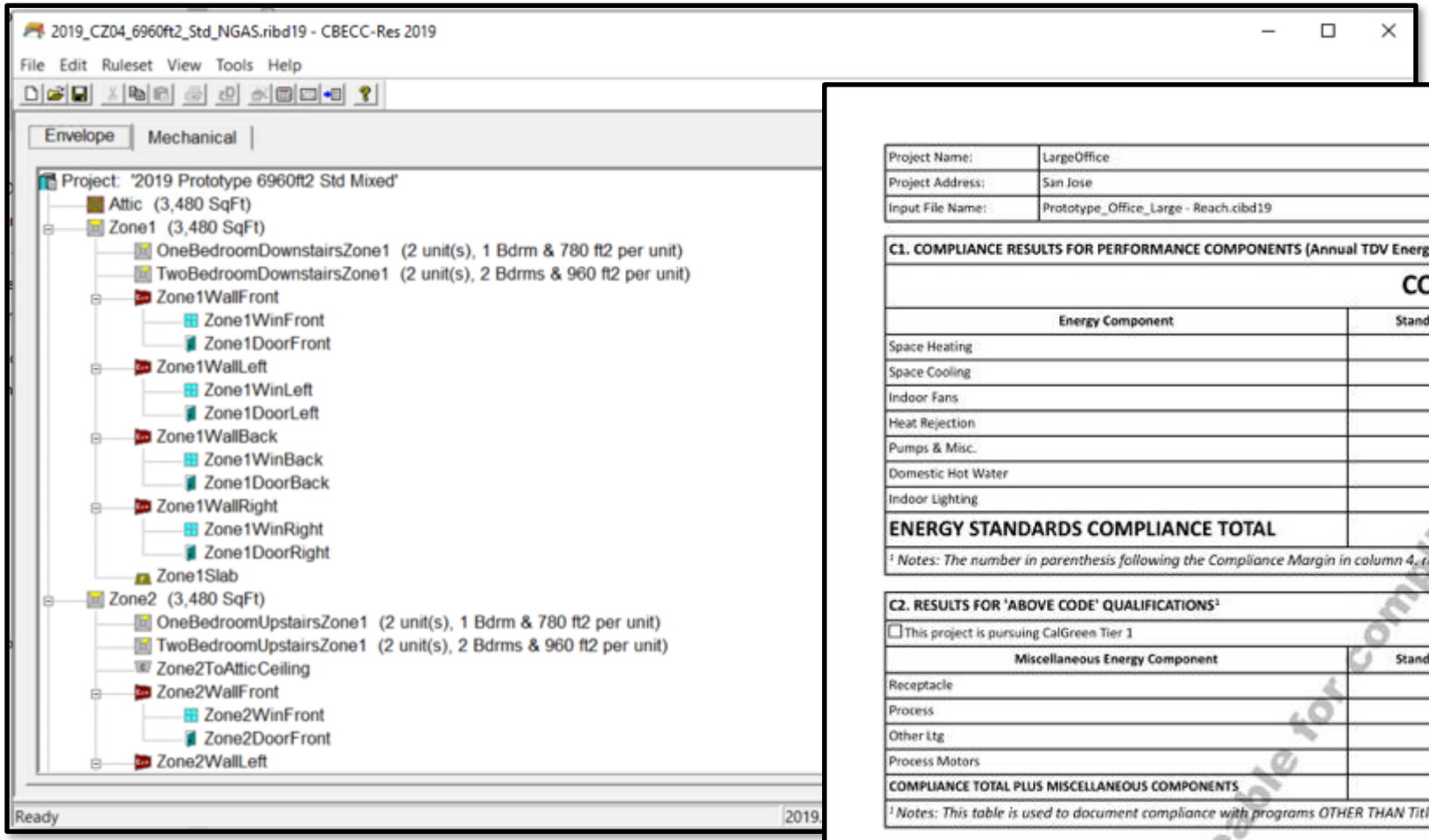
Building Electrification Components

1. Gas Ban in Low-Rise Residential
2. Increased Compliance Margin in all other Mixed-Fuel Buildings
3. Electrification Readiness

	All-Electric	Mixed-Fuel	Code Reference
Single Family	Meet Title 24 - 2019	Not Permitted	Gas Ban Ordinance
Low-Rise Multifamily	Meet Title 24 - 2019	Not Permitted	Gas Ban Ordinance
High Rise MF / Hotel / Motel	Meet Title 24 - 2019	6% better than T24 + Electrification Readiness Solar Ready	Section 150.1
Office / Retail	Meet Title 24 - 2019	14% better than T24 + Electrification Readiness Solar Ready	Section 150.1
Industrial / Manufacturing	Meet Title 24 - 2019	Electrification Readiness Solar Ready	Section 150.1

Modeled Performance



Project Name:	LargeOffice	NRCC-PRF-01-E	Page 2 of 20
Project Address:	San Jose	Calculation Date/Time:	23:10, Mon, Nov 18, 2019
Input File Name:	Prototype_Office_Large - Reach.cibd19		

C1. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft ²-yr)

COMPLIES

Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Space Heating	10.09	9.64	0.45
Space Cooling	17.15	17.15	--
Indoor Fans	17.08	16.66	0.42
Heat Rejection	2.17	2.50	-0.33
Pumps & Misc.	6.01	7.49	-1.48
Domestic Hot Water	7.38	2.08	5.30
Indoor Lighting	33.24	33.24	--
ENERGY STANDARDS COMPLIANCE TOTAL	**93.12**	**88.76**	**4.36 (4.7%)**

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

C2. RESULTS FOR 'ABOVE CODE' QUALIFICATIONS[1]

☐ 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	119.41	119.41	0.0
Process	3.21	3.21	0.0
Other Ltg	--	--	--
Process Motors	--	--	--
COMPLIANCE TOTAL PLUS MISCELLANEOUS COMPONENTS	**215.74**	**211.38**	**4.4 (2.0%)**

[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 includes Domestic Hot Water in the analysis. Please verify that Domestic Hot Water is included in the design for the permitted scope of work.

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Prescriptive Compliance – Hotel/Motel

- SHGC ≤ 0.22
- Efficient VAV airflow design
- Economizer (≥ 33,000 Btu/h cooling)
- 10% Lighting Power Density reduction
- Drain water heat recovery
- Improved Daylighting Controls
- Institutional Lighting Controls Tuning

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Prescriptive Compliance – Other Non-Res

- SHGC ≤ 0.22
- 50% reduction of East & West fenestration area
- Efficient VAV airflow design
- Economizer (≥ 33,000 Btu/h cooling)
- 10% Lighting Power Density reduction
- Drain water heat recovery
- Improved Daylighting Controls
- Institutional Lighting Controls Tuning
- Occupancy Controls in open area offices

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Electrification Readiness

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Electrification Readiness – Non-Residential

- **Water Heater:** 240V 30A circuit, condensate drain, 700 CFM of make-up air
- **Clothes Dryer:** 240V 30A circuit
- **Cooking:** 240V 50A circuit
- **All Other:** Designated Raceway + equivalent electrical capacity

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Electrification Readiness – Non-Residential

- **All Other:** Designated Raceway + equivalent electrical capacity

Reach Code Requirements

- Building Electrification
- Electric Vehicle Charging Infrastructure
- Solar PV

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EVCI Definitions

Electric Vehicle Charging Infrastructure

Level 1		15-20 Amp, 120v AC (standard household outlet) Driving Distance provided: 3-4 miles/hour
Level 2		208/240v AC Driving Distance provided: 25-30 miles/hour
DC Fast Charge		80-400 Amp, 200-600v DC Driving Distance provided: 125-1000 miles/hour

CLIMATE SMART SAN JOSE
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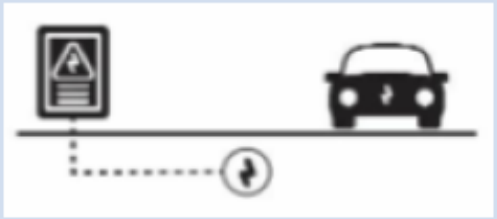
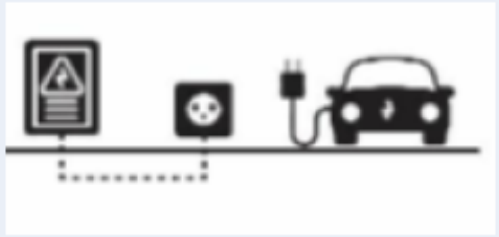
EVCI Definitions

Electric Vehicle Charging Infrastructure

EV Capable *(Some assembly required)*		Raceway (conduit), electrical capacity (breaker space)
EV Ready *(Plug & Play)*		Raceway (conduit), electrical service capacity, overcurrent protection devices, wire and outlet (i.e. full circuit)
EV Supply Equipment (EVSE) Installed *(Level 2 Charge!)*		All the equipment needed to deliver electrical energy from an electricity source to the EV

Courtesy TRC, PCE & SVCE

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	2019 Base Code	San Jose Reach Code	Code Languag
Single Family	1 EV Ready space	1 EV Ready space	Section 4.106.4.1
Low Rise Multifamily	10% spaces EV Capable	10% spaces EVSE 20% spaces EV Ready 70% EV Capable	Section 4.106.4.2
Low-Rise Hotel / Motel	4-6% spaces EV Capable	10% spaces EVSE 50% spaces EV Capable	Section 4.106.4.3.1
All Non-Res	4-6% spaces EV Capable	10% spaces EVSE 40% spaces EV Capable	Section 5.106.5.3.1

Reach Code Requirements

- Building Electrification
- Electric Vehicle Charging Infrastructure
- Solar PV

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	2019 Base Code	San Jose Reach Code	Code Language
Low-Rise Residential	Solar PV -OR- Solar-Ready	Same	Section 110.10 (a) 1 & 2
High Rise MF	Solar-Ready up to 10 stories	Solar-Ready for all	Section 110.10 (a) 3
All Other	Solar-Ready except healthcare or over 3 stories	Solar-Ready for all	Section 110.10 (a) 4

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Solar Readiness

Now Included

- MF over 3 stories
- Non-Res over 3 stories
- Healthcare

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IDeAs Z2 DesIgn FAcIlIty, San Jose (Credit: David Wakely)

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Examples of Reach Code Requirements

Reach Code Building Electrification

- Building Electrification
- Electric Vehicle Charging Infrastructure
- Solar PV scenario

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Building Electrification

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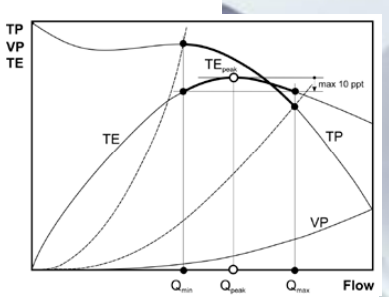
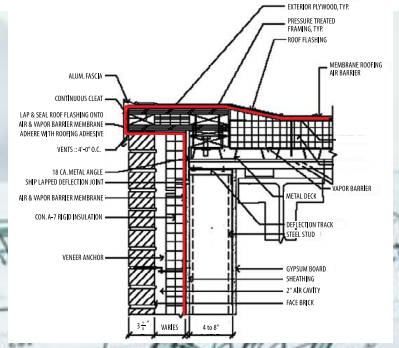
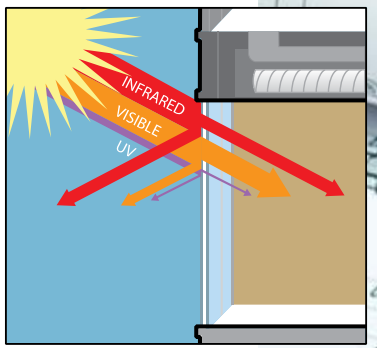
Electrification







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Electrification Readiness

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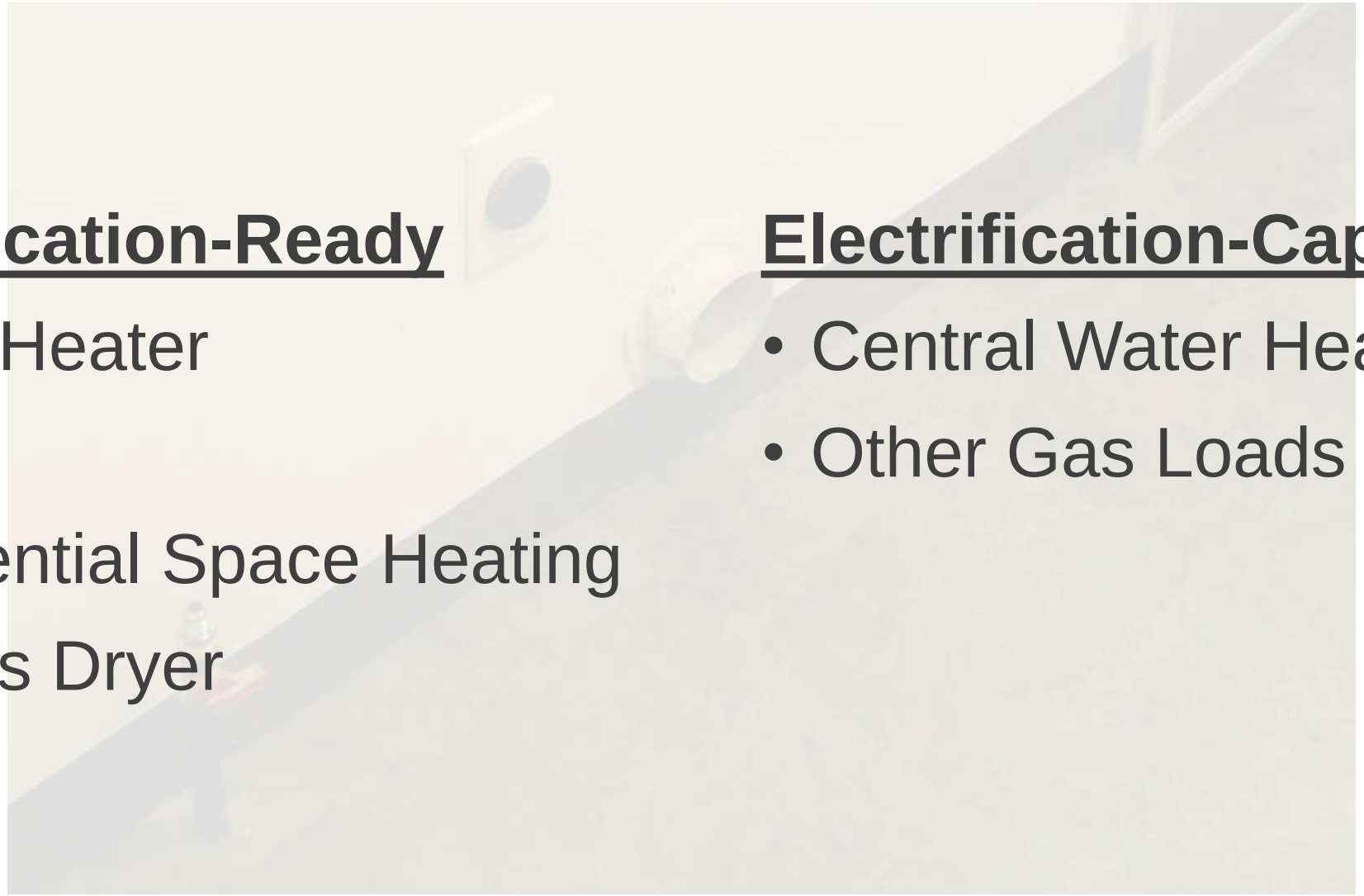
Electrification Readiness



Electrification-Ready

- Water Heater
- Range
- Residential Space Heating
- Clothes Dryer

Electrification-Capable

- Central Water Heating
- Other Gas Loads

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Reach Code Electric Vehicle Charging

- Building Electrification
- Electric Vehicle Charging Infrastructure
- Solar PV

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EV Capable

For each EV Capable Space

- Conduit from panel to space

For each EV Capable Space

- Physical space for breaker
- 8A of capacity

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EV Ready

<u>For each EV Ready Space:</u>

- Full circuit with 40A of capacity

DC Fast Chargers (EVSE)

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Electric Vehicle Service Equipment (EVSE)

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Electric Vehicle Service Equipment (EVSE)

32A Output

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Reach Code Solar PV

- Building Electrification
- Electric Vehicle Charging Infrastructure
- Solar PV

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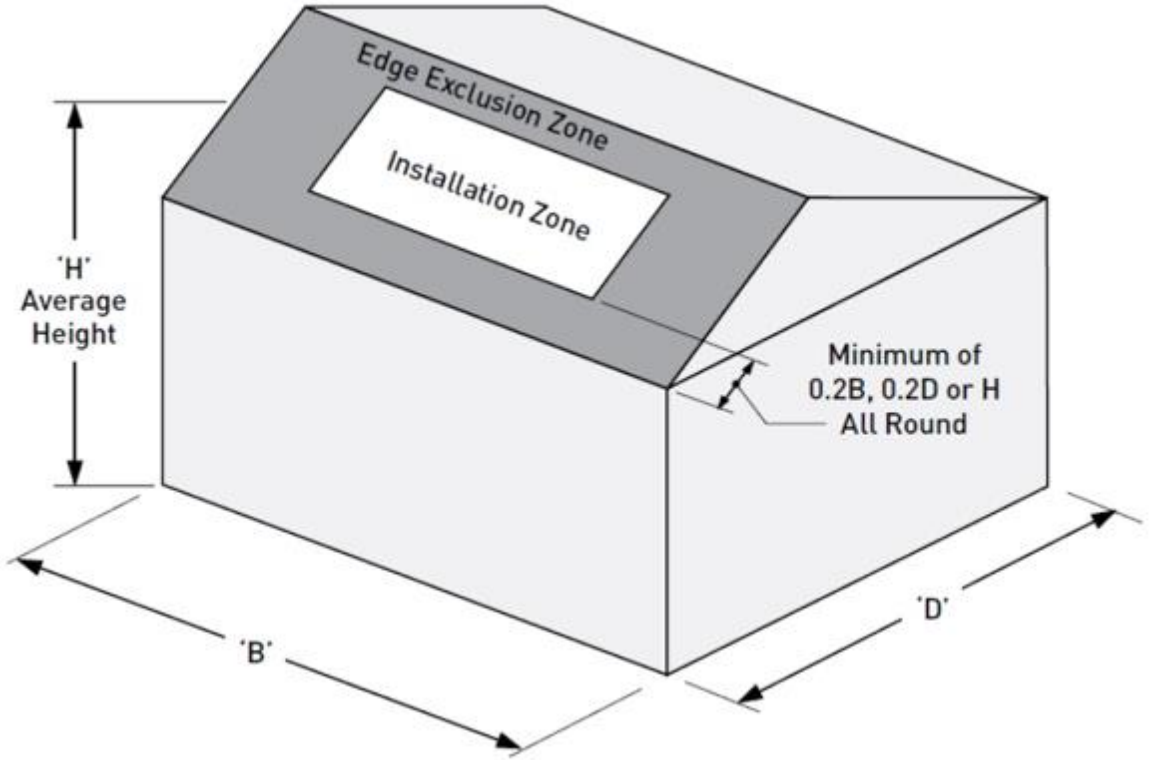
Solar Readiness



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Questions?

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Wayne Aspinall Federal Building & Courthouse, Grand Junction, CO

George V. Leyva Middle School, San Jose (Credit: KaraGeorge Studios)

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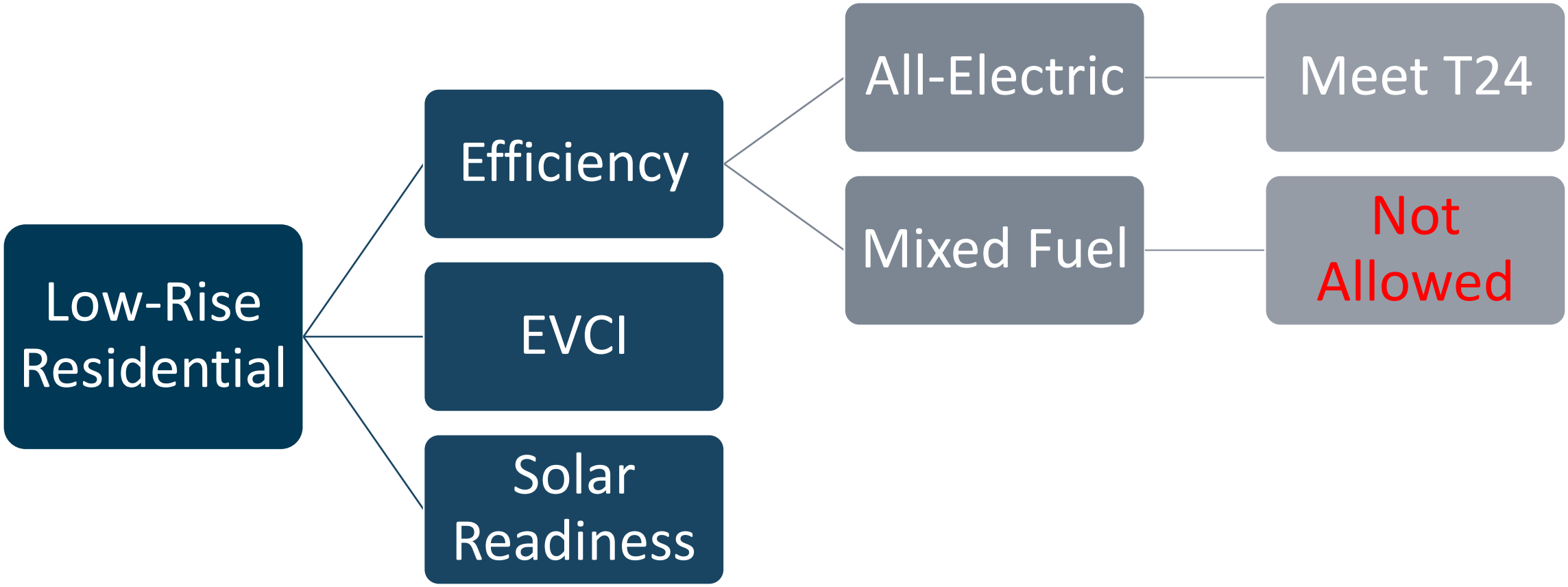
San Jose Reach Code

Flow Chart – Step 1



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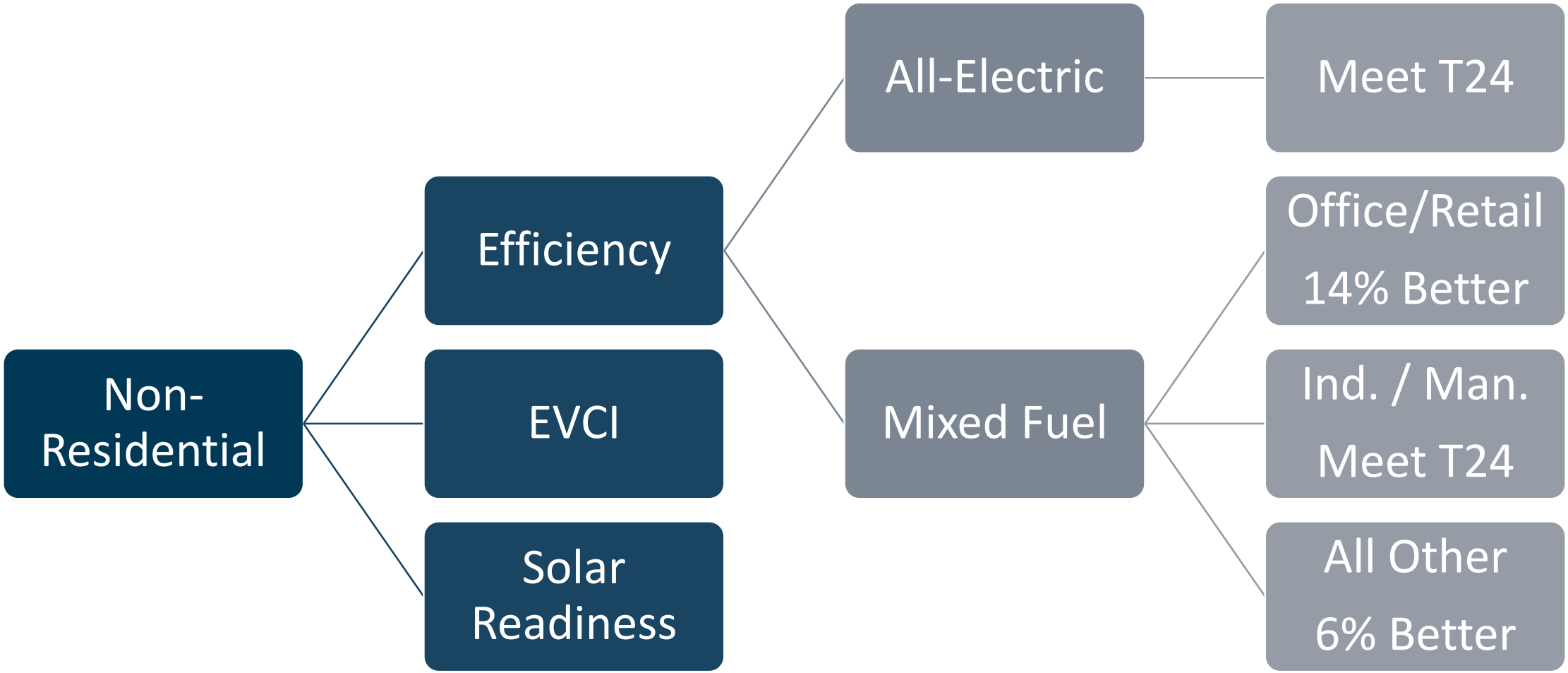
Reach Code Flow Chart



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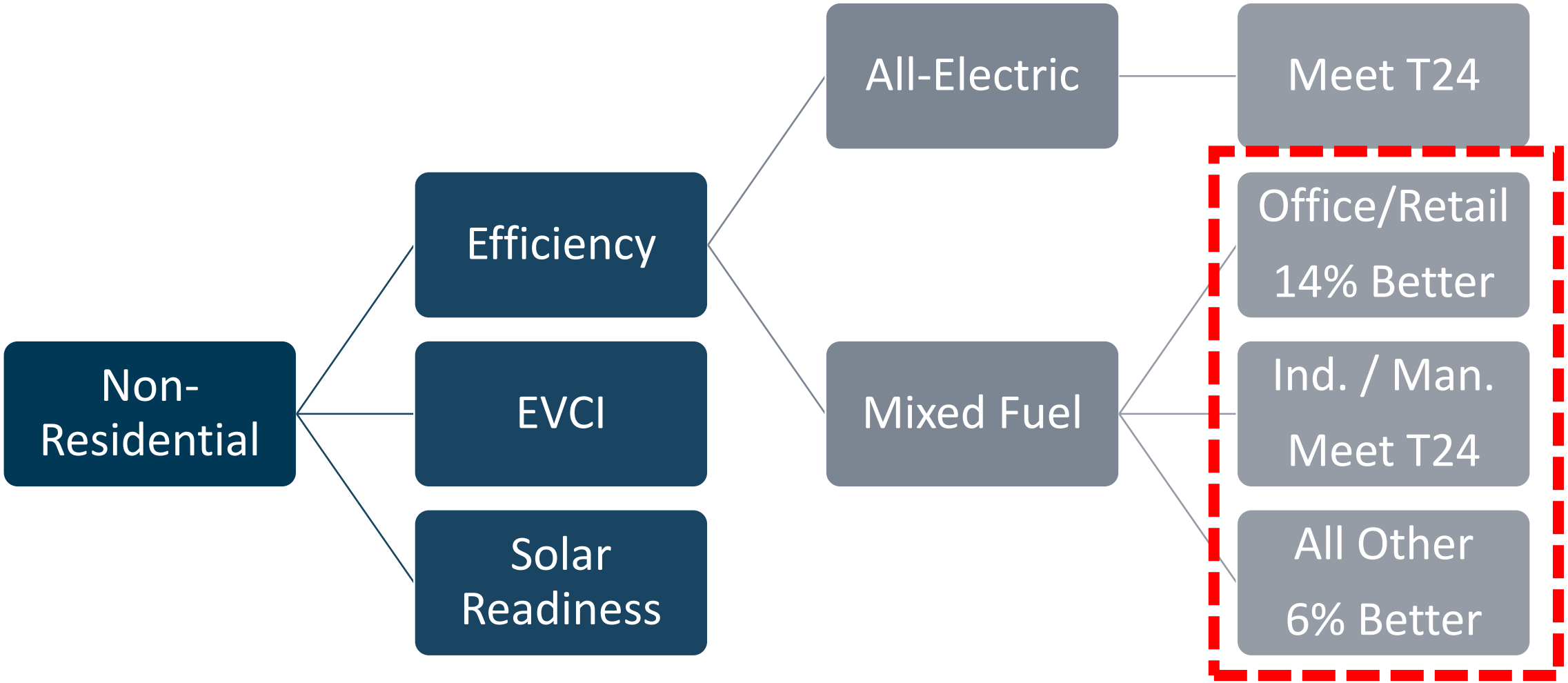
Mixed Fuel Flow Chart



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Reach Code

- Building Electrification
- Electric Vehicle Charging Infrastructure
- Solar PV

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	All-Electric	Mixed-Fuel	Code Reference
Single Family	Meet Title 24 - 2019	Not Permitted	Gas Ban Ordinance
Low-Rise Multifamily	Meet Title 24 - 2019	Not Permitted	Gas Ban Ordinance
High Rise MF / Hotel / Motel	Meet Title 24 - 2019	6% better than T24 + Electrification Readiness	Section 150.1
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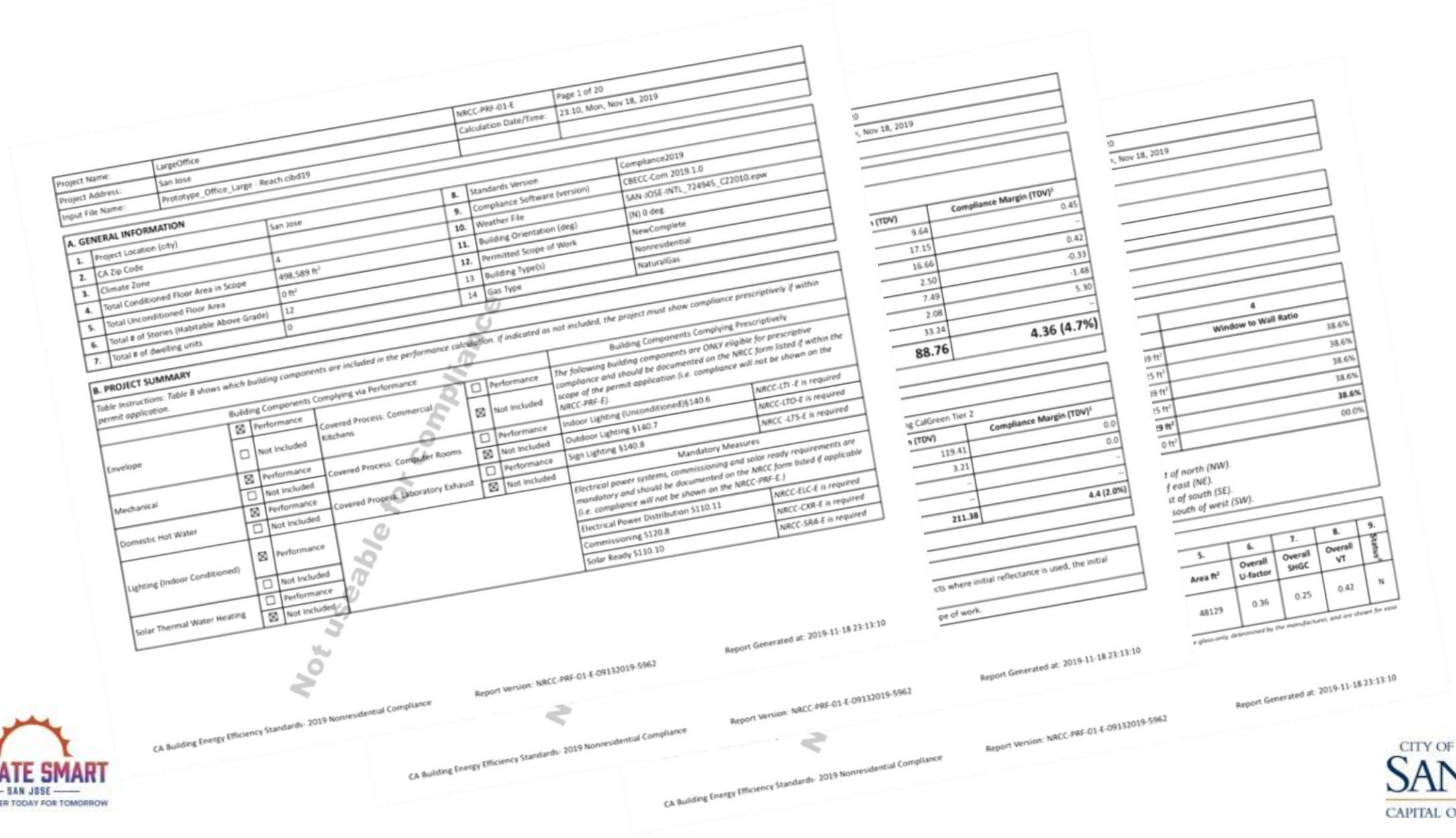
Industrial / Manufacturing	Meet Title 24 - 2019	Electrification Readiness	Section 150.1

Compliance Margin – Non-Residential



Project Name:	LargeOffice	NRCC-PRF-01-E	Page 1 of 20
Project Address:	San Jose	Calculation Date/Time:	23:10, Mon, Nov 18, 2019
Input File Name:	Prototype_Office_Large - Reach.cibd19		

A. GENERAL INFORMATION

1.	Project Location (city)	San Jose	8.	Standards Version	Compliance2019
2.	CA Zip Code	4	9.	Compliance Software (version)	CBECC-Com 2019.1.0
3.	Climate Zone	498,589 ft²	10.	Weather File	SAN JOSE-INTL_724945_CZ2010.epw
4.	Total Conditioned Floor Area in Scope	0 ft²	11.	Building Orientation (deg)	(N) 0 deg
5.	Total Unconditioned Floor Area	12	12.	Permitted Scope of Work	NewComplete
6.	Total # of Stories (Habitable Above Grade)	0	13	Building Type(s)	Nonresidential
7.	Total # of dwelling units		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 §110.11	NRCC-ELC-E is required
Solar Thermal Water Heating	☐ Performance			Commissioning §120.8	NRCC-CXR-E is required
	☒ Not Included			Solar Ready §110.10	NRCC-SRA-E is required

Not usable for compliance

(TDV)	Compliance Margin (TDV)[1]
9.64	0.45
17.15	--
16.66	0.42
2.50	-0.33
7.49	-1.48
2.08	5.30
13.24	--
88.76	4.36 (4.7%)

g CalGreen Tier 2

(TDV)	Compliance Margin (TDV)[1]
119.41	0.0
3.21	0.0
--	--
--	--
211.38	4.4 (2.0%)

cts where initial reflectance is used, the initial

pe of work.

4	
Window to Wall Ratio	
	38.6%
	38.6%
	38.6%
	38.6%
	38.6%
	00.0%

t of north (NW).
f east (NE).
st of south (SE).
south of west (SW).

5.	6.	7.	8.	9.
Area ft²	Overall U-factor	Overall SHGC	Overall VT	Skylight
48129	0.36	0.25	0.42	N

e glass-only, determined by the manufacturer, and are shown for exte

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-09132019-5962 Report Generated at: 2019-11-18 23:13:10

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-09132019-5962 Report Generated at: 2019-11-18 23:13:10

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-09132019-5962 Report Generated at: 2019-11-18 23:13:10

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CAPITAL OF SILICON VALLEY

Compliance Margin – Non-Residential

Page 2

Project Name:	LargeOffice	NRCC-PRF-01-E	Page 2 of 20
Project Address:	San Jose	Calculation Date/Time:	23:10, Mon, Nov 18, 2019
Input File Name:	Prototype_Office_Large - Reach.cibd19		

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☐ This project is pursuing CalGreen Tier 1 ☐ This project is pursuing CalGreen Tier 2

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Compliance– Non-Residential

All-Electric

Project Name:	LargeOffice	NRCC-PRF-01-E	Page 2 of 20
Project Address:	San Jose	Calculation Date/Time:	23:10, Mon, Nov 18, 2019
Input File Name:	Prototype_Office_Large - Reach.cibd19		

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ENERGY STANDARDS COMPLIANCE TOTAL	**93.12**	**88.76**	**4.36 (4.7%)**

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

C2. RESULTS FOR 'ABOVE CODE' QUALIFICATIONS[1]

☐ 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	119.41	119.41	0.0
Process	3.21	3.21	0.0
Other Ltg	--	--	--
Process Motors	--	--	--
COMPLIANCE TOTAL PLUS MISCELLANEOUS COMPONENTS	**215.74**	**211.38**	**4.4 (2.0%)**

[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 includes Domestic Hot Water in the analysis. Please verify that Domestic Hot Water is included in the design for the permitted scope of work.

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Compliance Margin – Non-Residential

Mixed-Fuel

Project Name:	LargeOffice	NRCC-PRF-01-E	Page 2 of 20
Project Address:	San Jose	Calculation Date/Time:	23:10, Mon, Nov 18, 2019
Input File Name:	Prototype_Office_Large - Reach.cibd19		

C1. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft ²-yr)

COMPLIES

Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Space Heating	10.09	9.64	0.45
Space Cooling	17.15	17.15	--
Indoor Fans	17.08	16.66	0.42
Heat Rejection	2.17	2.50	-0.33
Pumps & Misc.	6.01	7.49	-1.48
Domestic Hot Water	7.38	2.08	5.30
Indoor Lighting	33.24	33.24	--
ENERGY STANDARDS COMPLIANCE TOTAL	**93.12**	**88.76**	**4.36 (4.7%)**

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C2. RESULTS FOR 'ABOVE CODE' QUALIFICATIONS[1]

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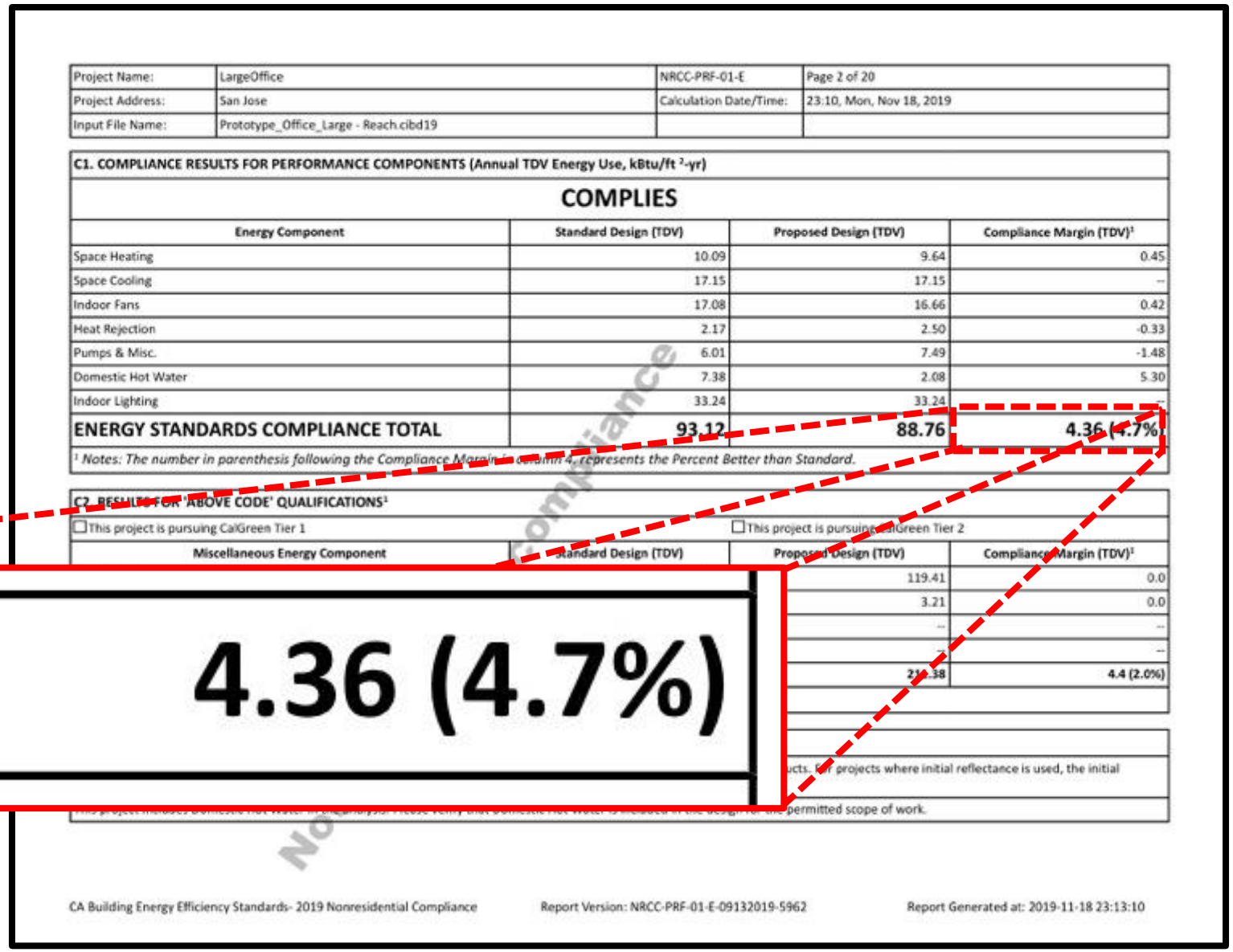
Compliance Margin – Non-Residential



Project Name:	LargeOffice	NRCC-PRF-01-E	Page 2 of 20
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C2. RESULTS FOR 'ABOVE CODE' QUALIFICATIONS[1]

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Miscellaneous Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
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		3.21	0.0
		--	--
		--	--
		211.38	4.4 (2.0%)

...ucts. For projects where initial reflectance is used, the initial

...permitted scope of work.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-09132019-5962 Report Generated at: 2019-11-18 23:13:10

4.36 (4.7%)

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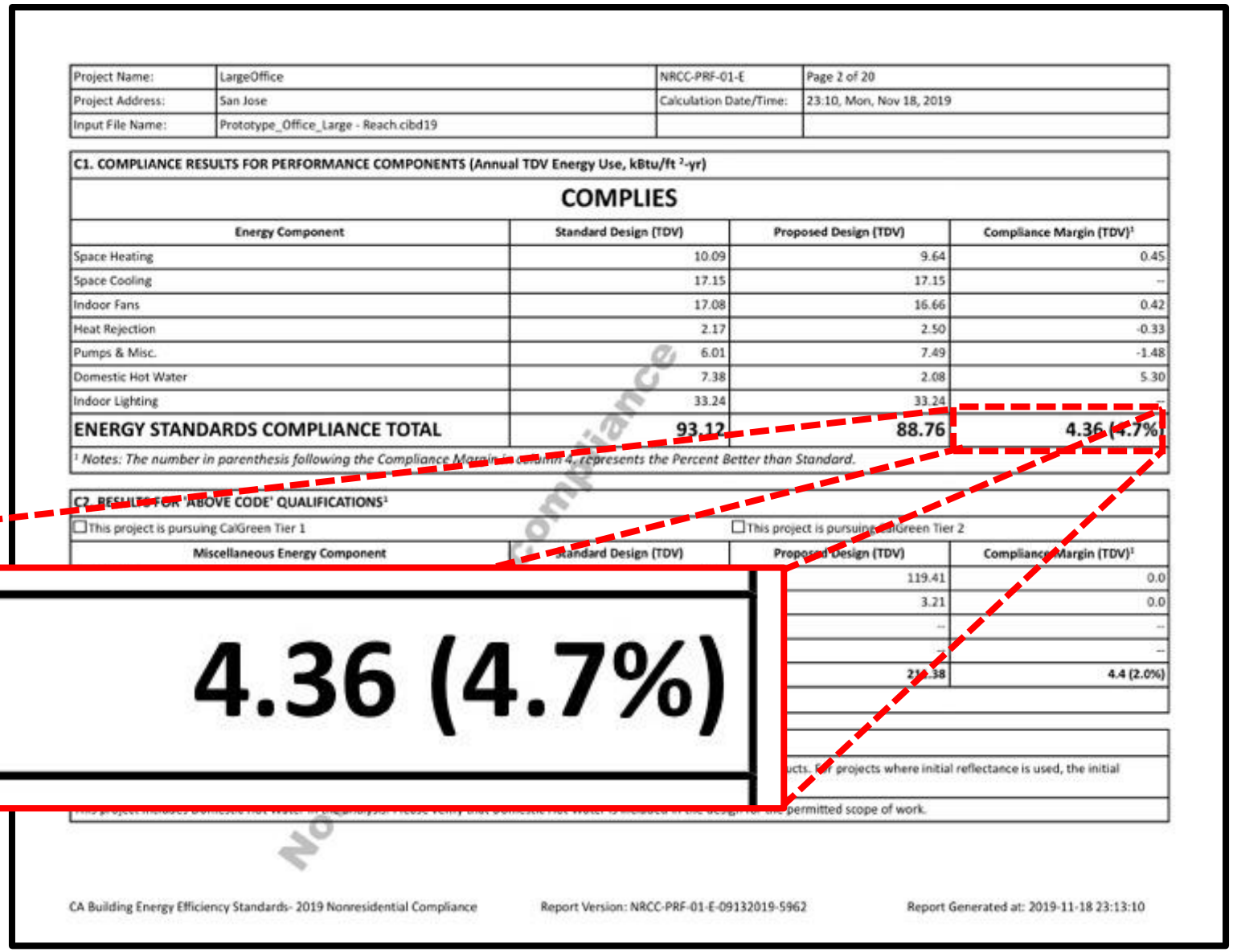
Compliance Margin – Non-Residential



Project Name:	LargeOffice	NRCC-PRF-01-E	Page 2 of 20
Project Address:	San Jose	Calculation Date/Time:	23:10, Mon, Nov 18, 2019
Input File Name:	Prototype_Office_Large - Reach.cibd19		

C1. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft ²-yr)

COMPLIES

Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Space Heating	10.09	9.64	0.45
Space Cooling	17.15	17.15	--
Indoor Fans	17.08	16.66	0.42
Heat Rejection	2.17	2.50	-0.33
Pumps & Misc.	6.01	7.49	-1.48
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Miscellaneous Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
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		--	--
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CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-09132019-5962 Report Generated at: 2019-11-18 23:13:10

4.36 (4.7%)

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Check Efficiency Level – Low-Rise Residential

Page 2

CERTIFICATE OF COMPLIANCE CF1R-PRF-01E

Project Name: 2019 Prototype 2700ft2 Std Mixed **Calculation Date/Time:** 2019-11-18T15:21:35-08:00 (Page 2 of 11)

Calculation Description: TDSv30 V02R04 V02 R04 EGLASS20 NGAS PVSTD **Input File Name:** 2019_CZ04_2700ft2_Std_NGAS - Reach.ribd19

ENERGY DESIGN RATING

	Energy Design Ratings		Compliance Margins	
	Efficiency[1] (EDR)	Total[2] (EDR)	Efficiency[1] (EDR)	Total[2] (EDR)
Standard Design	44.7	23.3		
Proposed Design	40.9	19.5	3.8	3.8
RESULT: [3] COMPLIES				

[1] Efficiency measures include improvements like a better building envelope and more efficient equipment
[2] Total EDR includes efficiency, photovoltaics and batteries
[3] Building complies when all efficiency and total margins are greater than or equal to zero

- Standard Design PV Capacity: 2.91 kW
- PV System resized to 2.90 kWdc (a factor of 2.900) to achieve 'Maximum PV for Compliance Credit' PV scaling

ENERGY USE SUMMARY

Energy Use (kTDV/ft²-yr)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating	16.09	13.23	2.86	17.8
Space Cooling	5.08	3.32	1.76	34.6
IAQ Ventilation	2.53	2.53	0	0
Water Heating	10.46	7.99	2.47	23.6
Self Utilization Credit	n/a	0	0	n/a
Compliance Energy Total	**34.16**	**27.07**	**7.09**	**20.8**

REQUIRED PV SYSTEMS

01	02	03	04	05	06	07	08	09	10	11
DC System Size (kWdc)	Exception	Module Type	Array Type	Power Electronics	CFI	Azimuth (deg)	Tilt Input	Array Angle (deg)	Tilt: (x in 12)	Inverter Eff. (%)
2.9	NA	Standard	Fixed (open rack)	none	true	n/a	n/a	n/a	n/a	96

Registration Number: Registration Date/Time: HERS Provider:

CA Building Energy Efficiency Standards - 2019 Residential Compliance Report Version: 2019.1.002 Schema Version: rev 20190401 Report Generated: 2019-11-18 15:24:12

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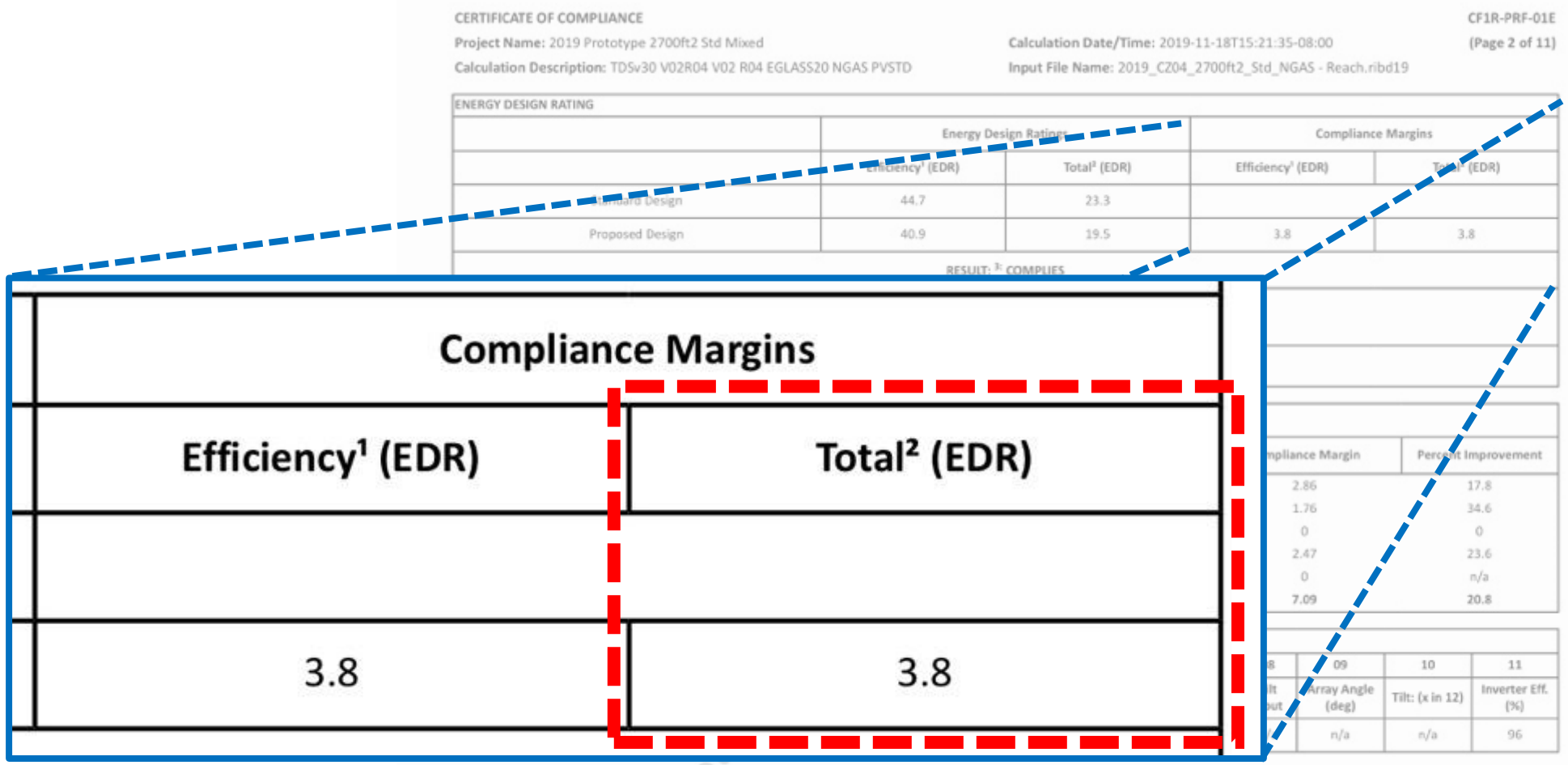
Check Efficiency Level – Low Rise



CERTIFICATE OF COMPLIANCE

CF1R-PRF-01E

Project Name: 2019 Prototype 2700ft2 Std Mixed

Calculation Date/Time: 2019-11-18T15:21:35-08:00

(Page 2 of 11)

Calculation Description: TDSv30 V02R04 V02 R04 EGLASS20 NGAS PVSTD

Input File Name: 2019_CZ04_2700ft2_Std_NGAS - Reach.ribd19

ENERGY DESIGN RATING

	Energy Design Ratings		Compliance Margins	
	Efficiency[1] (EDR)	Total[2] (EDR)	Efficiency[1] (EDR)	Total[2] (EDR)
Standard Design	44.7	23.3		
Proposed Design	40.9	19.5	3.8	3.8

RESULT: [3] COMPLIES

Compliance Margin	Percent Improvement
2.86	17.8
1.76	34.6
0	0
2.47	23.6
0	n/a
7.09	20.8

08	09	10	11
...ut	Array Angle (deg)	Tilt: (x in 12)	Inverter Eff. (%)
...	n/a	n/a	96

Compliance Margins

Efficiency[1] (EDR)	Total[2] (EDR)
3.8	3.8

Registration Number:

Registration Date/Time:

HERS Provider:

CA Building Energy Efficiency Standards - 2019 Residential Compliance

Report Version: 2019.1.002
Schema Version: rev 20190401

Report Generated: 2019-11-18 15:24:12

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Electrification Readiness

- **Water Heater:** 240V 30A circuit, condensate drain, 700 CF of air
- **Clothes Dryer:** 240V 30A circuit
- **Cooking:** 240V 50A circuit
- **All Other:** Designated Raceway + equivalent electrical capacity

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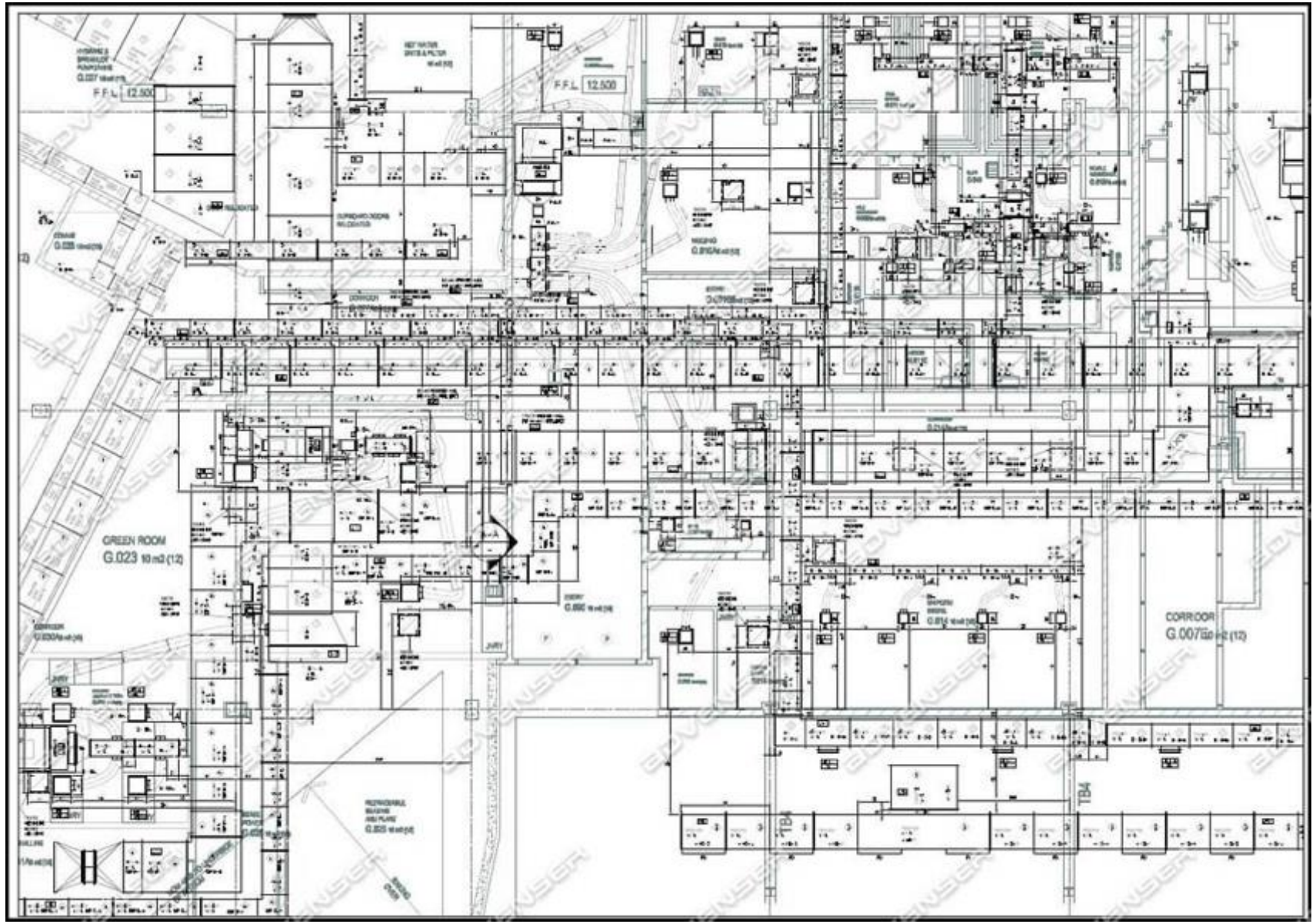
Electrification Readiness



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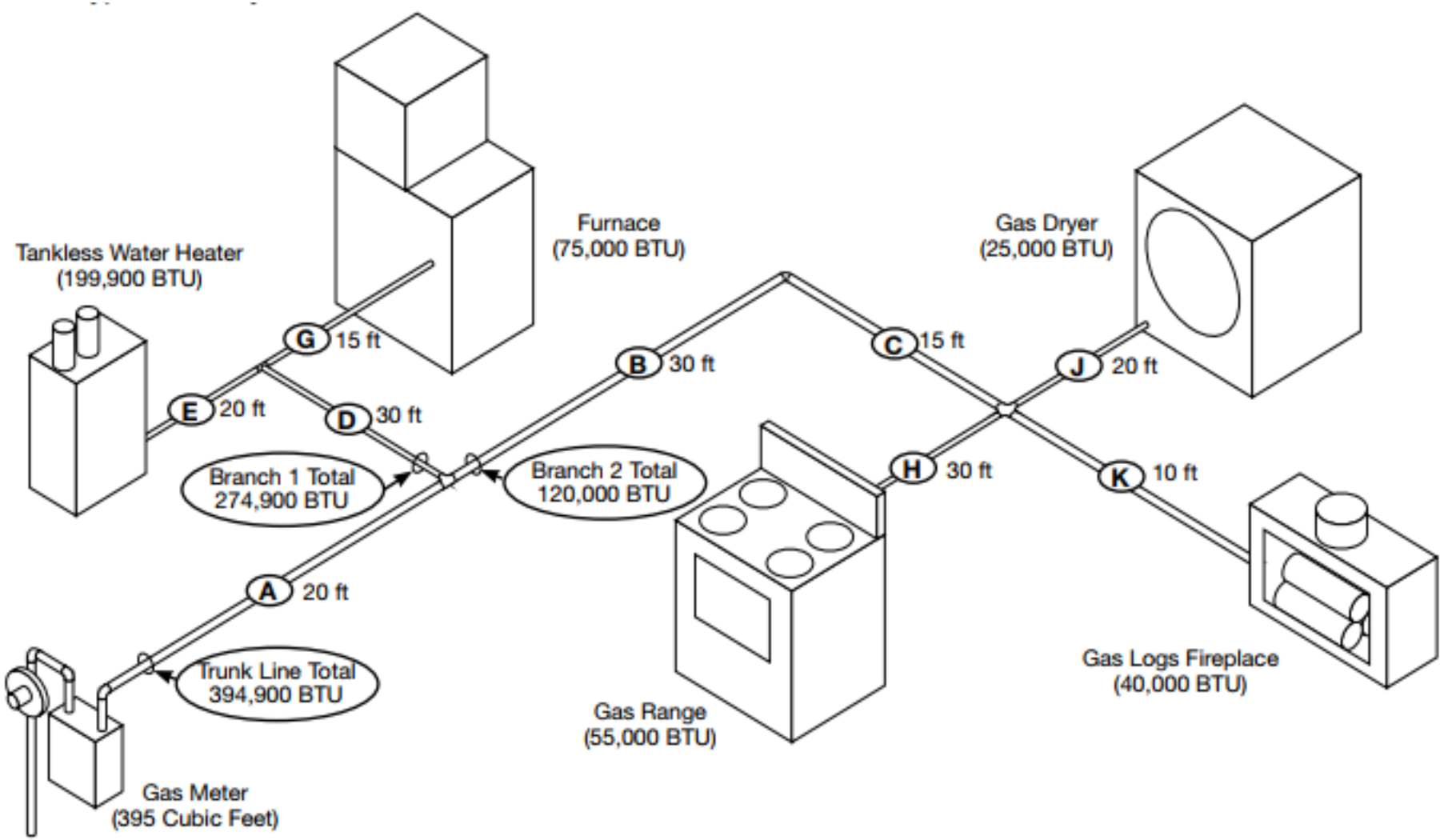
Electrification Readiness



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Check Electrification Readiness

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Reach Code

- Building Electrification
- Electric Vehicle Charging Infrastructure
- Solar PV

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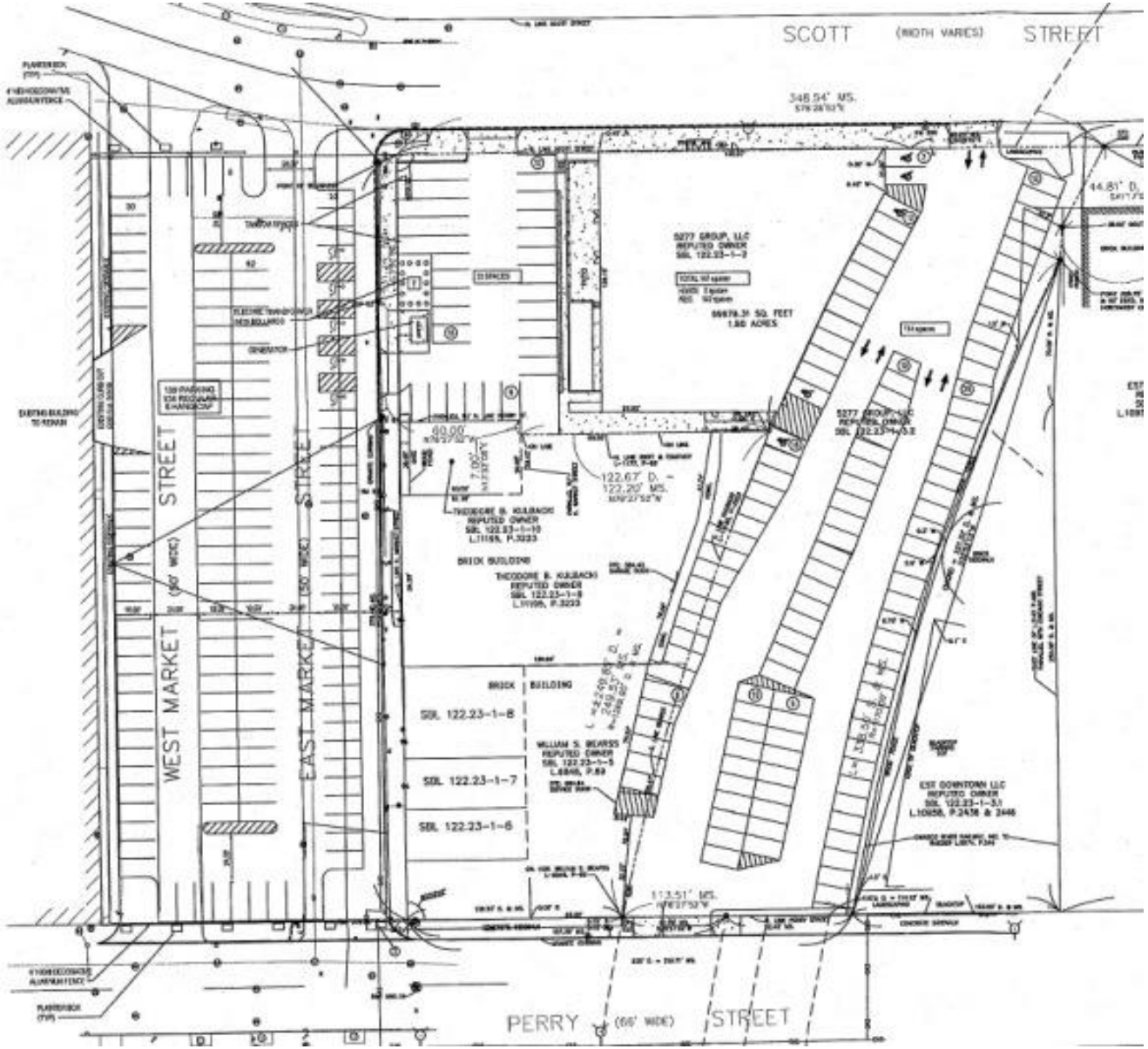
	2019 Base Code	San Jose Reach Code	Code Language
Single Family	1 EV Ready space	1 EV Ready space	Section 4.106.4.1
Multifamily	10% spaces EV Capable	10% spaces EVSE 20% spaces EV Ready 70% spaces EV Capable	Section 4.106.4.2
Low-Rise Hotel / Motel	4-6% spaces EV Capable	10% spaces EVSE 50% spaces EV Capable	Section 4.106.4.3.1
All Non-Res	4-6% spaces EV Capable	10% spaces EVSE 40% spaces EV Capable	Section 5.106.5.3.1

EVCI



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EVCI – EVSE Spaces

- Space Count
- Charger Specifications
- Circuit Size and Location

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EVCI – EV Ready Spaces

Space Count

Circuit Size & Location

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EVCI – EV Capable Spaces

- Space Count
- Conduit size and Location
- Available Capacity

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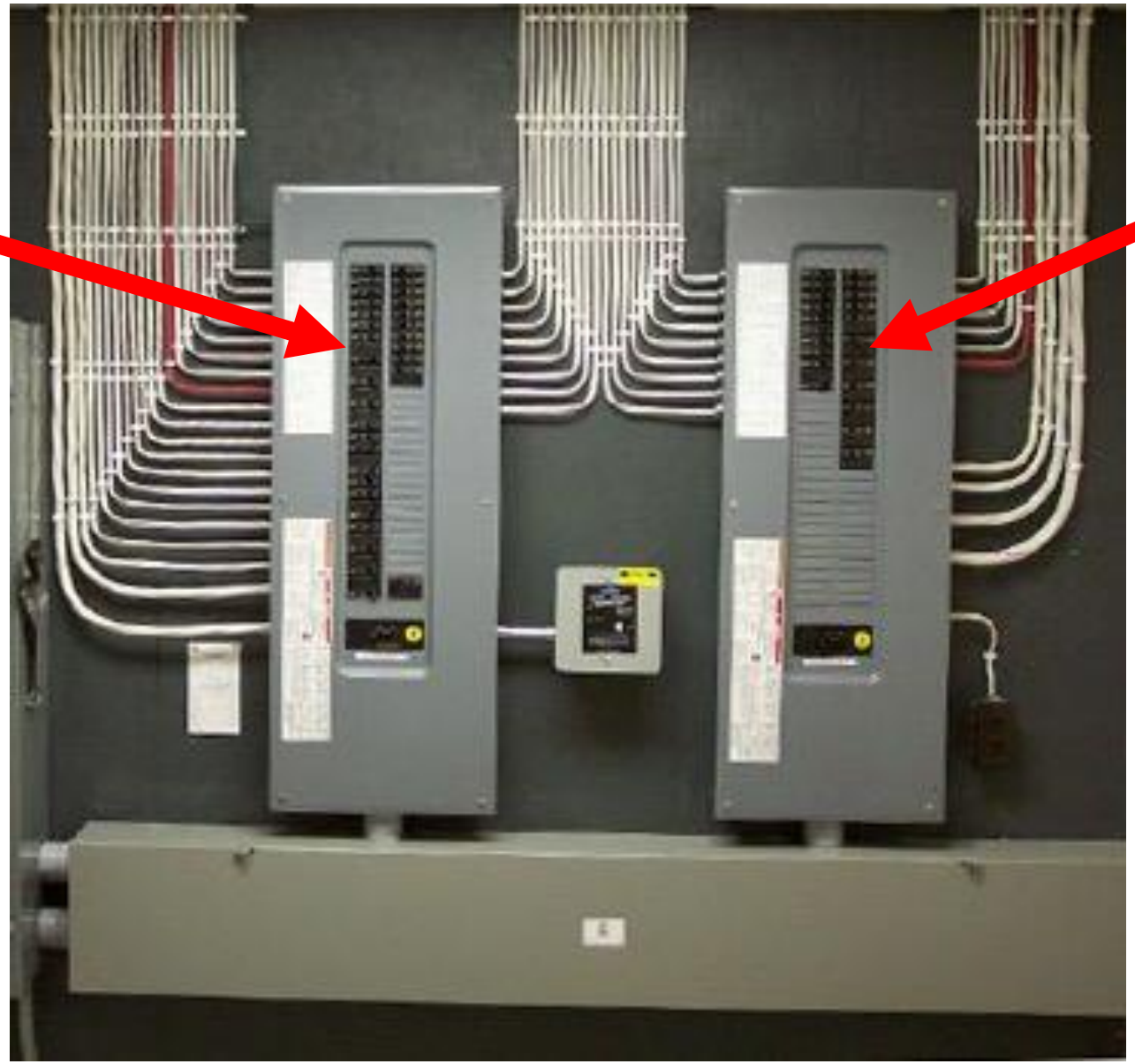
8 EV Capable Spaces



20 EV Capable Spaces

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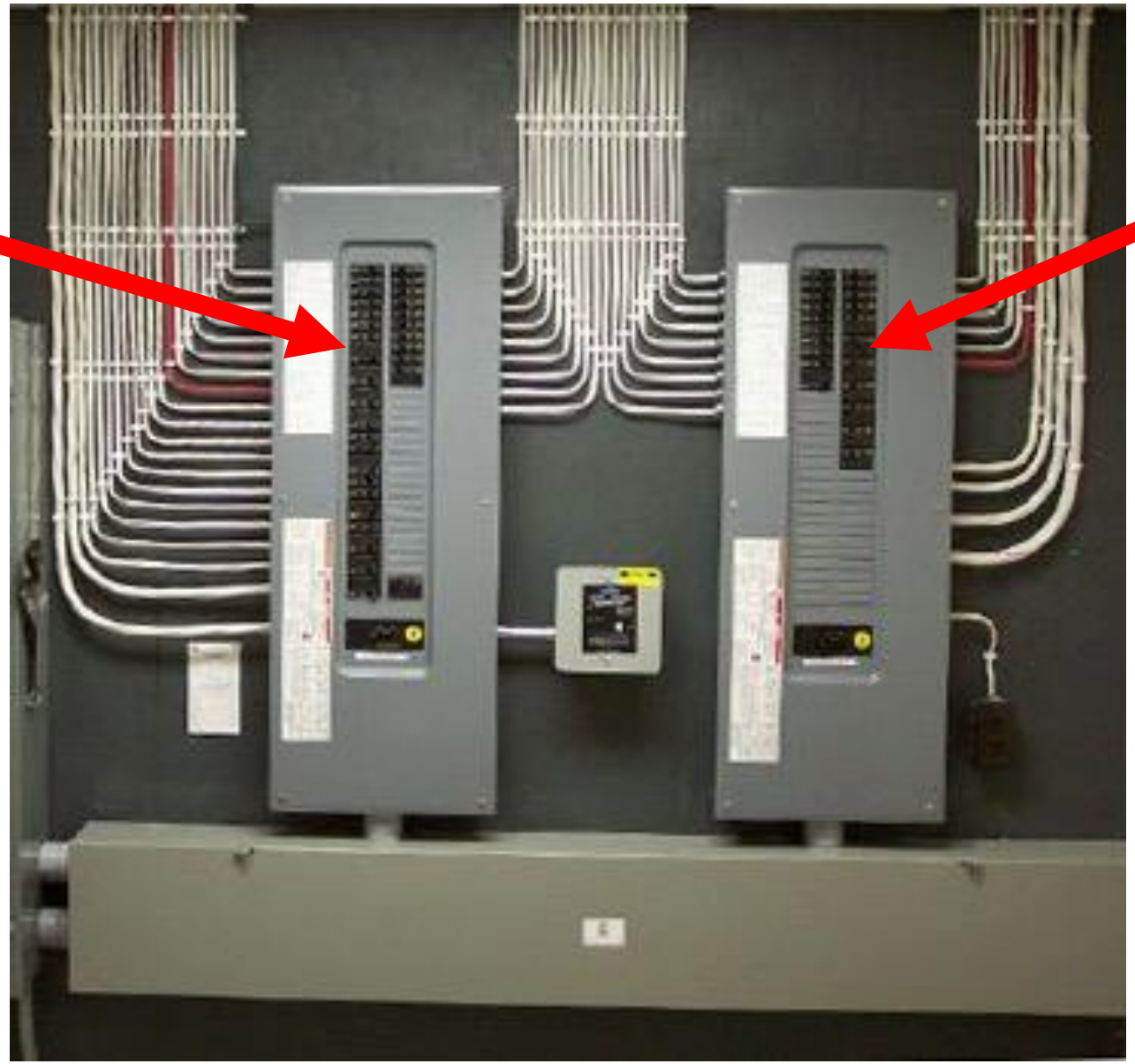
8 EV Capable Spaces

=

64A @ 240V Additional Capacity



20 EV Capable Spaces

=

160A @ 240V Additional Capacity

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Reach Code

- Building Electrification
- Electric Vehicle Charging Infrastructure
- Solar PV

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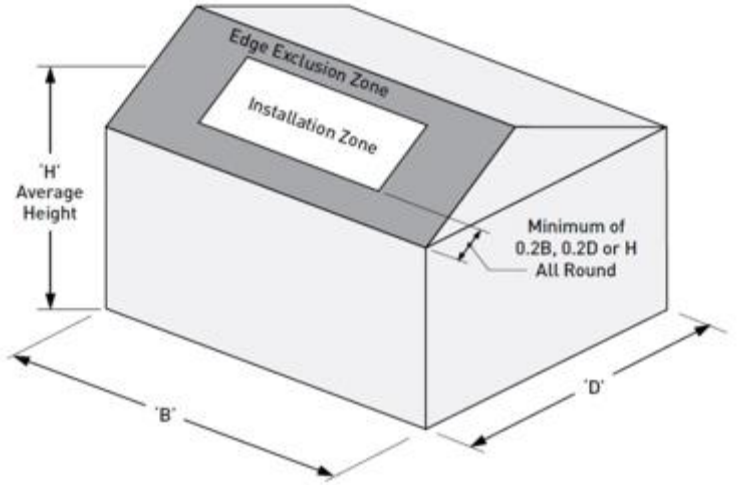
Solar Readiness



- Identify Solar-Ready Zone
- Interconnection Pathway
- Physical Space at Electrical Panel
- Structural Support for Panels

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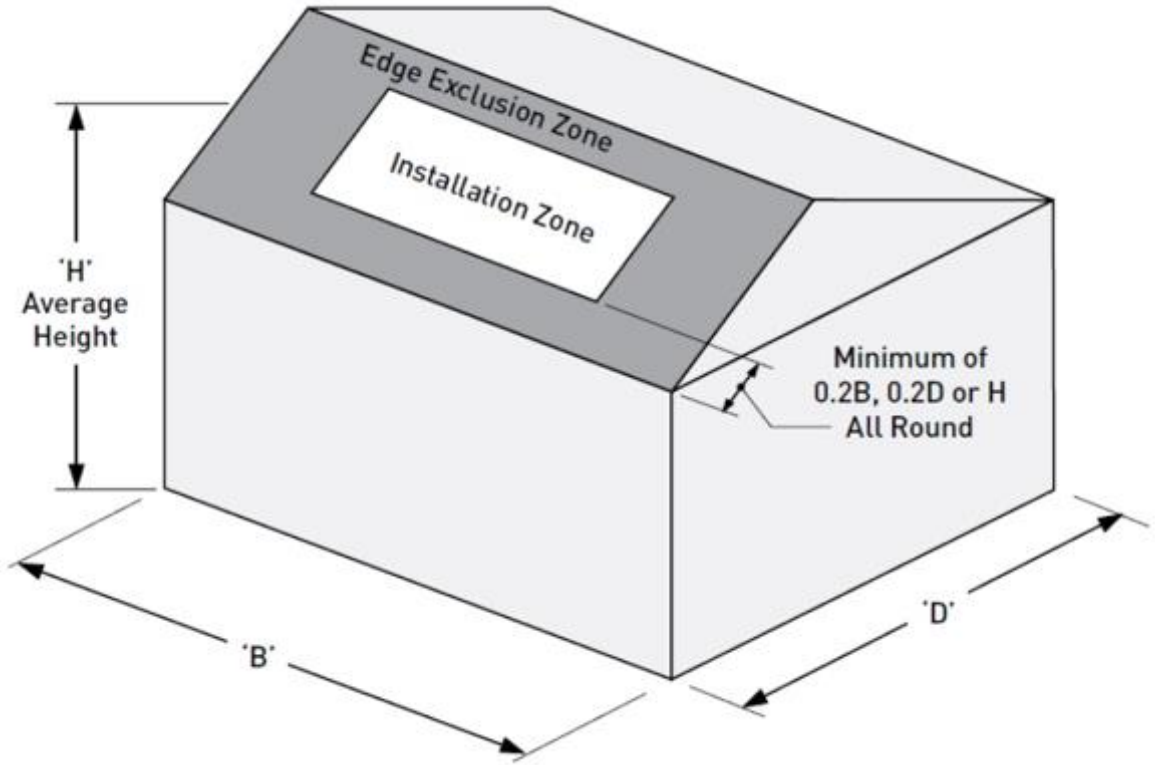
Solar-Ready Zone



- Minimum Zone Size:
  - Single Family – 250 SF
  - All Other – 15%
- Minimum segment size:
  - <10,000 sf roof: 80sf
  - >10,000 sf roof: 160 sf

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Questions?

nbi new buildings institute

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Wayne Aspinall Federal Building & Courthouse, Grand Junction, CO