BY RECEIVING AND USING THESE PERMIT READY CONSTRUCTION DOCUMENTS, THE USER ACKNOWLEDGES AND ACCEPTS THE FOLLOWING CONDITIONS OF USE:

1. THE USE OF THESE PERMIT READY CONSTRUCTION DOCUMENTS AND INFORMATION CONTAINED THEREON IS RESTRICTED TO THE ORIGINAL PURPOSE FOR WHICH THEY WERE PREPARED, WHICH IS THE PERMIT READY ACCESSORY DWELLING UNIT (ADU) PROGRAM FOR THE COUNTY OF EL DORADO (COUNTY). THIS DOES NOT ELIMINATE OR REDUCE THE USER'S RESPONSIBILITY TO VERIFY ANY AND ALL INFORMATION RELEVANT TO THE USER'S CONSTRUCTION OF AN ADU. THE USER ACKNOWLEDGES AND AGREES THAT EACH PROPERTY SITE IS UNIQUE, AND IT WILL BE UP TO THE USER TO COMPLETE THE PLANS BASED ON THE SPECIFIC PROPERTY SITE AND POTENTIAL WIDE RANGE OF DESIGN CONDITIONS. IT IS ANTICIPATED THAT THE USER MAY TAKE THESE PLANS TO AN ENGINEER, ARCHITECT, CONTRACTOR AND/OR OTHER PROFESSIONAL FOR FINALIZATION. THE USER MAY MODIFY THE ADU PLANS; HOWEVER, THE COUNTY'S BUILDING DIVISION WILL NEED TO REVIEW AND APPROVE THE FINAL PLANS IF ANY MODIFICATIONS ARE MADE TO THE ADU PLANS.
2. THE USER RECOGNIZES AND ACKNOWLEDGES THAT THE USE OF THESE DOCUMENTS AND INFORMATION WILL BE AT THEIR SOLE RISK AND WITHOUT ANY LIABILITY OR LEGAL EXPOSURE TO THE COUNTY OR THE PROFESSIONAL PERSON(S) OR ENTITY(S) WHO PREPARED THE ADU PLANS. NO WARRANTIES OF ANY NATURE, WHETHER EXPRESS OR IMPLIED, SHALL ATTACH TO THESE DOCUMENTS OR THE INFORMATION CONTAINED THEREON. ANY USE, REUSE, OR ALTERATION OF THESE DOCUMENTS BY THE USER OR BY OTHERS WILL BE AT THE USER'S RISK AND FULL LEGAL RESPONSIBILITY. FURTHERMORE, THE USER WILL, TO THE FULLEST EXTENT PERMITTED BY LAW, INDEMNIFY AND HOLD THE COUNTY AND THE PROFESSIONAL PERSON(S) OR ENTITY(S) WHO PREPARED THE ADU PLANS, HARMLESS FROM ALL CLAIMS, SUITS, LIABILITY, DEMANDS, JUDGMENTS, OR COSTS ARISING OUT OF OR RESULTING THEREFROM ON ACCOUNT OF ANY INJURY, DEATH, DAMAGE, OR LOSS TO PERSONS OR PROPERTY.
3. ALL IDEAS, DESIGNS, ARRANGEMENTS, AND PLANS INDICATED OR REPRESENTED BY THESE ADU PLANS ARE OWNED BY AND ARE THE PROPERTY OF RADAR, INC. AND WERE CREATED, EVOLVED, AND DEVELOPED FOR USE ON AND IN CONNECTION WITH THE COUNTY'S PERMIT READY ADU PROGRAM.

IF THE RECIPIENT OF THE ADU PLANS DOES NOT AGREE WITH THE ABOVE CONDITIONS OF USE AND HAS NOT SIGNED THE COUNTY'S HOLD HARMLESS AGREEMENT FOR PERMIT READY ACCESSORY DWELLING UNITS, THE RECIPIENT IS NOT AUTHORIZED TO USE THE ADU PLANS AND RECIPIENT SHALL NOT PROCEED BEYOND THIS DISCLAIMER/HOLD HARMLESS.

FURTHER INFORMATION MAY BE FOUND ON THE EL DORADO ADU WEBSITE. WWW.EDCGOV.US/GOVERNMENT/BUILDING/PAGES/ADU

NOTES FOR USE OF THESE PLANS:

1. A SITE PLAN IS REQUIRED. REFER TO SITE PLAN REQUIREMENTS ON THIS SHEET.
2. SOLAR PHOTOVOLTAIC EQUIPMENT IS REQUIRED. REFER TO TITLE 24 ENERGY CODE COMPLIANCE REPORT ON THIS SHEET. THE APPLICANT IS RESPONSIBLE FOR OBTAINING PLANS FOR SOLAR PV EQUIPMENT AND SUBMIT FOR PERMIT.
3. DETERMINE CLIMATE ZONE THROUGH CALIFORNIA ENERGY COMMISSION CLIMATE ZONE WEBSITE. (HTTPS://WWW.ENERGY.CA.GOV/PROGRAMS-AND-TOPICS/PROGRAMS/BUILDING-ENERGY-EFFICIENCY-STANDARDS/CLIMATE-ZONE-TOOL-MAPS-AND)
4. NEWLY CONSTRUCTED ADUS MUST HAVE AN AUTOMATIC RESIDENTIAL SPRINKLER SYSTEM WHEN EXISTING DWELLING HAS AN AUTOMATIC RESIDENTIAL SPRINKLER SYSTEM (R313.2, CB1069)

DEVELOPMENT SERVICES DEPARTMENT

COUNTY OF EL DORADO http://www.edcgov.us/devservices

Site Plan/Plot Plan Requirements

The following items are required for the site/plot plan to be deemed complete.

- ☐ **Site/Plot Plan** - drawn at a conventional scale (i.e., 1" = 10', 1" = 20', etc.) showing the entire parcel with property lines dimensioned (if you have a very large parcel, you may use a reduced scale such as 1" = 50' or 1" = 100', as long as the *grading portion* of the site plan is *no smaller than 1" = 20'* (this method may require two or more drawings)).
  - ☐ Provide a North arrow on the site and/or plot plan.
  - ☐ Provide the scale being used for the site and/or plot plan.
- ☐ **Show the location and dimension of all recorded easements on the parcel** - (i.e., road easements, public utility easements, drainage easements, etc.). Show distances from the proposed structure(s) to all property lines (or nearest edge of road easement(s)). Show to scale all existing or proposed structure(s) on the property (such as garage, well, shed, barn, swimming pool, propane tank, septic system, etc.) and building separation dimensioned.
  - ☐ Provide to scale and dimension all existing and proposed driveways and parking areas.
- ☐ **Show how the California "Fire Safe/Defensible Space" Regulations will be met for driveway & property** - from the proposed structure to the addressed road, turnarounds, turnouts and fuel modification (CRC R327.1.5).
  - ☐ A summary is available from Building Services or on our website: https://www.edcgov.us/Government/building/Pages/fire_safe_regulations_title_14_article_2.aspx
  - ☐ Provide a fully dimensioned driveway profile that includes the following: *elevations* at road edge or top of curb, garage floor and at each grade break; *percentage of slope* between grade breaks; and *distance* between grade breaks. A sample profile is available at Building Services
- ☐ **Show *existing site topography* (prior to grading)** - using contour lines at 1' or 2' vertical increments. The contour lines must extend a minimum of 20 feet beyond the building site, driveway or other area of disturbance. Use positive values only and state the source of the topography.
- ☐ **Show the *proposed grading*** - This is generally done by using one of two methods: darker, thicker contour lines that overlay the (lighter) existing contour lines; or thicker lines that show cut and fill slopes to scale (the slopes are plotted using a scale). Also specify the yardage of cut and fill.
  - ☐ Provide the finish floor elevation of the proposed structure.
  - ☐ Due to the technical nature of this aspect of the building plans, we recommend that you have a design professional (i.e. civil engineer, architect or landscape architect) assist with this portion of your plan preparation. **Depending on several factors, it may be required that a civil engineer prepares or supervises preparation of your plan.**
- ☐ **Show how CALGreen site development requirements will be met** - https://www.edcgov.us/Government/building/Documents/Plan%20Review%202016%20New%20Residential%20Green%20Code.pdf
- ☐ **Parcels within an area of special flood hazard (identified by FEMA)** - Planning Services may require a licensed civil engineer or surveyor to determine the proposed building is outside a flood zone. Flood insurance rate maps shall show the flood zone.

TITLE 24 SUMMARY - ENERGY CODE COMPLIANCE REQUIREMENTS - CLIMATE ZONE 12

SYSTEM	RESULT	NOTES
Foundation	Raised Floor, R-19 Insulation	See A2-10 for Floor Plan, A8-10 for Building Section
Enclosure	Interior Walls, R-21 Insulation	See A2-10 for Floor Plan, A8-10 for Building Section
	Exterior Walls, R-18 Rigid Insulation	
	Between Rafters at Cathedral Ceiling, R-38 Insulation	
	At Attic on Ceiling Surface, R-38 Insulation	
	Between Rafters below roof deck at Attic, R-19 Insulation	
	Radiant Barrier, attached directly to underside of roof deck	See 9-11 for Roof Details
Glazing	Dual-Pane, U-Factor: 0.30 / SHCG: 0.24 or lower	See A8-10 for Door/Window Schedule
	NFRC labels are required	
HVAC	Ducted HVAC: 11.5 HSPF, 18.8 SEER / 12.5 EER	See M6-01 for Suggested Model
	R-6 ducts in conditioned space	
Water Heating	Electric Storage water heater: 3.75 Uniform Energy Factor	See P0-01 for Suggested Model
	Northwest Energy Efficiency Alliance (NEEA) rated heat pump water heater	
Solar	Minimum 2.5 kW solar PV system	
HERS Verification S Required	Quality Insulation Installation (QII)	Visit energy.gov.ca for Approved HERS raters
	Indoor air quality ventilation	https://www.energy.ca.gov/programs-and-topics/programs/home-energy-rating-system-hers-program/home-energy-rating-system
	Kitchen range hood	Home Energy Rating System (HERS) providers are approved by the California Energy Commission (CEC) to train and certify raters. Each provider maintains a directory of raters who are qualified to verify the work of licensed contractors, including heating, ventilation, and air-conditioning (HVAC), insulation, and plumbing trades.
	Minimum Airflow	HERS providers oversee raters conducting Title 24 Energy Code compliance verification in residential and nonresidential newly constructed buildings and in additions and alterations of existing buildings. Providers have also supported the New Solar Homes Partnership Program and implemented California whole-house home energy rating systems.
	Verified EER/EER2	
	Verified SEER/SEER2	
	Fan Efficacy Watts/CFM – 0.58	
	Verified heat pump rated heating capacity – 24.7 MBH	
	Duct leakage testing	

FOR TITLE 24 ENERGY CODE CERTIFICATE OF COMPLIANCE FOR CLIMATE ZONE 12, SEE T2-0

TITLE 24 SUMMARY - ENERGY CODE COMPLIANCE REQUIREMENTS - CLIMATE ZONE 16

SYSTEM	RESULT	NOTES
Foundation	Raised Floor, R-19 Insulation	See A2-10 for Floor Plan, A8-10 for Building Section
Enclosure	Interior Walls, R-21 Insulation	See A2-10 for Floor Plan, A8-10 for Building Section
	Exterior Walls, R-6 Rigid Insulation	
	Between Rafters at Cathedral Ceiling, R-38 Insulation	
	At Attic on Ceiling Surface, R-38 Insulation	
	Between Rafters below roof deck at Attic, R-19 Insulation	
Glazing	Dual-Pane, U-Factor: 0.30 / SHCG: 0.65 or lower	See A8-10 for Door/Window Schedule
	NFRC labels are required	
HVAC	Ducted HVAC: 11.5 HSPF, 18.1 SEER / 12.5 EER	See M6-01 for Suggested Model
	R-6 ducts in conditioned space	
Water Heating	Electric Storage water heater: 3.75 Uniform Energy Factor	See P0-01 for Suggested Model
	Northwest Energy Efficiency Alliance (NEEA) rated heat pump water heater	
Solar	Minimum 2.5 kW solar PV system	
HERS Verification S Required	Quality insulation installation (QII)	Visit energy.gov.ca for Approved HERS raters
	Indoor air quality ventilation	https://www.energy.ca.gov/programs-and-topics/programs/home-energy-rating-system-hers-program/home-energy-rating-system
	Kitchen range hood	Home Energy Rating System (HERS) providers are approved by the California Energy Commission (CEC) to train and certify raters. Each provider maintains a directory of raters who are qualified to verify the work of licensed contractors, including heating, ventilation, and air-conditioning (HVAC), insulation, and plumbing trades.
	Minimum Airflow	HERS providers oversee raters conducting Title 24 Energy Code compliance verification in residential and nonresidential newly constructed buildings and in additions and alterations of existing buildings. Providers have also supported the New Solar Homes Partnership Program and implemented California whole-house home energy rating systems.
	Verified EER/EER2	
	Verified SEER/SEER2	
	Fan Efficacy Watts/CFM – 0.58	
	Verified heat pump rated heating capacity – 24.7 MBH	
	Duct leakage testing	

FOR TITLE 24 ENERGY CODE CERTIFICATE OF COMPLIANCE FOR CLIMATE ZONE 16, SEE T3-0

PROJECT INFORMATION:

PROPERTY LOCATION:
EL DORADO COUNTY

BUILDING SUMMARY:
TYPE VB CONSTRUCTION

AREA SUMMARY:

ADU: 2 BEDROOM, 1 BATH UNIT

GROSS AREA: 996 SF

COVERED PORCH: 128 SF

PARKING SUMMARY:
(N) PARKING: 1 PARKING SPACE PER SITE.
PROVIDE EV CHARGING STATION.

BUILDING CODES:
2022 EDITION OF THE CALIFORNIA BUILDING CODE
2022 EDITION OF THE CALIFORNIA RESIDENTIAL CODE
2022 EDITION OF THE CALIFORNIA ELECTRICAL CODE
2022 EDITION OF THE CALIFORNIA MECHANICAL CODE
2022 EDITION OF THE CALIFORNIA PLUMBING CODE
2022 EDITION OF THE CALIFORNIA ENERGY CODE
2022 EDITION OF THE CALIFORNIA FIRE CODE
2022 EDITION OF THE CALGREEN CODE
THE COUNTY OF EL DORADO ORDINANCE CODE
AND ANY OTHER AUTHORITY HAVING JURISDICTION

NOT FOR CONSTRUCTION

PROJECT DESCRIPTION:

996 SF 2-BEDROOM, 1 BATH, ACCESSORY DWELLING UNIT WITH A RAISED FLOOR FOUNDATION + 128 SF COVERED PORCH

DRAWING LIST:

ARCHITECTURAL	
PROJECT/SITE FORMS & ANALYSIS	
A0-00	PROJECT INFO, DRAWING LIST, VICINITY MAP
A0-10	GENERAL NOTES, ABBREVIATIONS
A0-30	CAL GREEN (1 OF 2)
A0-31	CAL GREEN (2 OF 2)
ENERGY COMPLIANCE	
T1-0	MANDATORY MEASURES
T2-0	TITLE 24 FORM – CLIMATE ZONES 12 (1 OF 3)
T2-1	TITLE 24 FORM – CLIMATE ZONES 12 (2 OF 3)
T2-2	TITLE 24 FORM – CLIMATE ZONES 12 (3 OF 3)
T3-0	TITLE 24 FORM – CLIMATE ZONES 16 (1 OF 3)
T3-1	TITLE 24 FORM – CLIMATE ZONES 16 (2 OF 3)
T3-2	TITLE 24 FORM – CLIMATE ZONES 16 (3 OF 3)
BUILDING	
A2-10	FLOOR PLAN & ROOF PLAN
A3-10	RCP / LIGHTING, APPLIANCE & PLUMBING SCHEDULE
A4-10	EXTERIOR ELEVATIONS – CABIN RUSTIC
A4-11	EXTERIOR ELEVATIONS – MOUNTAIN MODERN
A8-10	DOOR & WINDOW SCHEDULES & BLDG. SECTION
A9-10	DETAILS, TYP.
A9-11	DETAILS, MOUNTAIN MODERN & CABIN RUSTIC
A9-12	DETAILS, TYP.
STRUCTURAL	
S0-01	GENERAL NOTES
S1-01	TYPICAL DETAILS
S1-02	TYPICAL DETAILS
S1-03	TYPICAL DETAILS
S1-04	TYPICAL DETAILS
S2-01	FLOOR PLANS
S3-01	ELEVATIONS, SECTIONS AND DETAILS
MEP	
M0.01	MECHANICAL COVER SHEET
M3.01	MECHANICAL PLANS
M6.01	MECHANICAL SCHEDULES & DETAILS
M8.01	MECHANICAL DETAILS
M8.02	MECHANICAL DETAILS
E0-01	GENERAL NOTES, LEGENDS AND SHEET INDEX
E0-02	ELECTRICAL SPECIFICATION
E2-01	LIGHTING PLAN
E3-01	POWER PLAN
P0-01	PLUMBING LEGEND,SCHEDULE,NOTES,DETAILS & ABBREV.
P2-01	1ST FLOOR AND ROOF PLUMBING PLANS
P3-01	PLUMBING RISER DIAGRAMS



VICINITY MAP 01
SCALE: N.T.S.

Waiver of Liability:
The County of El Dorado requires participating end user property owner(s) to release, hold harmless, and indemnify Consultant, subcontractors, and the County and its' employees from any and all claims, liabilities or damages arising out of the use of these ADU construction documents.

PERMIT SET

El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE
PROJECT INFO, DRAWING LIST, VICINITY MAP

PROJECT
SCALE
VARIES
DRAWN BY
DATE
11/10/2023

SHEET NUMBER
A0-00

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD — CF1R-PRF-01E

Project Name: El Dorado County Permit-Ready Accessory Dwelling Unit — **Calculation Date/Time:** 2023-08-09T18:03:22-07:00 — (Page 1 of 14)

Calculation Description: Title 24 Analysis — **Input File Name:** El Dorado County - Climate Zone 12- Final - 08.09.2023 .ribd22x

GENERAL INFORMATION

01	Project Name	El Dorado County Permit-Ready Accessory Dwelling Uni			
02	Run Title	Title 2- Analysis			
03	Project Location				
04	City		05	Standards Version	2022
06	Zip code		07	Software Version	EnergyPro 9.1
08	Climate Zone	12	09	Front Orientation (deg/ Cardinal)	All orientations
10	Building Type	Single family	11	Number of Dwelling Units	1
12	Project Scope	Newly constructed	13	Number of Bedrooms	2
14	Addition Cond. Floor Area (ft²)	0	15	Number of Stories	1
16	Existing Cond. Floor Area (ft²)	n/a	17	Fenestration Average U-factor	0.3
18	Total Cond. Floor Area (ft²)	996	19	Glazing Percentage (%)	15.4%
20	ADU Bedroom Count	n/a			

COMPLIANCE RESULTS

01	Building Complies with Computer Performance
02	This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider.
03	This building incorporates one or more Special Features shown below

Registration Number: 223-P010031568M-000-000-0000000-0000 — Registration Date/Time: 2023-08-09 19:50:49 — HERS Provider: CalCERTS Inc.

CA Building Energy Efficiency Standards - 2022 Residential Compliance — Report Version: 2022.0.000 — Schema Version: rev 20220901 — Report Generated: 2023-08-09 18:04:15

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD — CF1R-PRF-01E

Project Name: El Dorado County Permit-Ready Accessory Dwelling Unit — **Calculation Date/Time:** 2023-08-09T18:03:22-07:00 — (Page 2 of 14)

Calculation Description: Title 24 Analysis — **Input File Name:** El Dorado County - Climate Zone 12- Final - 08.09.2023 .ribd22x

ENERGY DESIGN RATINGS

	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency[1] EDR (EDR2efficiency)	Total[2] EDR (EDR2total)	Source Energy (EDR1)	Efficiency[1] EDR (EDR2efficiency)	Total[2] EDR (EDR2total)
Standard Design	36	36.7	0.8			
Proposed Design						
North Facing	1.1	33.8	5.3	4.9	3.4	5.5
East Facing	1.8	35.5	7.1	4.4	0.2	3.7
South Facing	1.7	35.8	6.7	4.3	0.9	4.1
West Facing	1.7	35	6.2	4.3	1.7	4.6

RESULT[3]: PASS

[1]Efficiency EDR includes improvements like a better building envelope and more efficient equipment

[2]Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries

[3]Buildings complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded

- Standard Design PV Capacity: 2.19 kWdc

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Project Name: El Dorado County Permit-Ready Accessory Dwelling Unit — **Calculation Date/Time:** 2023-08-09T18:03:22-07:00 — (Page 3 of 14)

Calculation Description: Title 24 Analysis — **Input File Name:** El Dorado County - Climate Zone 12- Final - 08.09.2023 .ribd22x

ENERGY USE SUMMARY

Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft²-yr)	Standard Design TDV Energy (EDR2) (kTDV/ft²-yr)	Proposed Design Source Energy (EDR1)(kBtu/ft²-yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft²-yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	2.01	8.06	1.68	11.2	0.55	-2.24
Space Cooling	1.05	28.39	1	30.15	0.05	-1.76
IAQ Ventilation	0.4	4.27	0.1	4.27	0	0
Water Heating	2.65	27.1	1.52	16.79	1.13	10.31
Self Utilization/Flexibility credit				0		0
North Facing Efficiency Compliance Total	**6.13**	**68.72**	**4.1**	**62.41**	**1.73**	**6.31**
Space Heating	2.01	8.06	1.47	11.84	0.54	-2.48
Space Cooling	1.05	28.39	1.19	35.89	-0.14	-7.5
IAQ Ventilation	0.4	4.27	0.1	4.27	0	0
Water Heating	2.65	27.1	1.52	16.8	1.13	10.3
Self Utilization/Flexibility credit				0		0
East Facing Efficiency Compliance Total	**6.13**	**68.72**	**4.1**	**68.4**	**1.53**	**0.32**

Registration Number: 223-P010031568M-000-000-0000000-0000 — Registration Date/Time: 2023-08-09 19:50:49 — HERS Provider: CalCERTS Inc.

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Calculation Description: Title 24 Analysis — **Input File Name:** El Dorado County - Climate Zone 12- Final - 08.09.2023 .ribd22x

ENERGY USE SUMMARY

Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft²-yr)	Standard Design TDV Energy (EDR2) (kTDV/ft²-yr)	Proposed Design Source Energy (EDR1)(kBtu/ft²-yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft²-yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	2.01	8.06	1.7	13.22	0.33	-4.26
Space Cooling	1.05	28.39	1.02	32.71	0.03	-4.32
IAQ Ventilation	0.4	4.27	0.1	4.27	0	0
Water Heating	2.65	27.1	1.21	16.86	1.13	10.24
Self Utilization/Flexibility credit				0		0
South Facing Efficiency Compliance Total	**6.13**	**68.72**	**4.16**	**67.06**	**1.49**	**1.66**
Space Heating	2.01	8.06	1.54	13.37	0.29	-4.41
Space Cooling	1.05	28.39	1.1	31.05	0.05	-2.66
IAQ Ventilation	0.4	4.27	0.1	4.27	0	0
Water Heating	2.65	27.1	1.52	16.84	1.13	10.26
Self Utilization/Flexibility credit				0		0
West Facing Efficiency Compliance Total	**6.13**	**68.72**	**4.86**	**85.53**	**1.47**	**3.19**

Registration Number: 223-P010031568M-000-000-0000000-0000 — Registration Date/Time: 2023-08-09 19:50:49 — HERS Provider: CalCERTS Inc.

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Project Name: El Dorado County Permit-Ready Accessory Dwelling Unit — **Calculation Date/Time:** 2023-08-09T18:03:22-07:00 — (Page 5 of 14)

Calculation Description: Title 24 Analysis — **Input File Name:** El Dorado County - Climate Zone 12- Final - 08.09.2023 .ribd22x

ENERGY USE INTENSITY

	Standard Design(kBtu/ft² - yr)	Proposed Design (kBtu/ft² - yr)	Compliance Margin (kBtu/ft² - yr)	Margin Percentage
North Facing				
Gross EUI[1]	21.8	19.05	2.83	10.9
Net EUI[2]	9.8	5.05	4.59	47.61
East Facing				
Gross EUI[1]	21.8	19.21	2.07	9.68
Net EUI[2]	9.8	5.31	4.33	44.92
South Facing				
Gross EUI[1]	21.8	19.19	2.61	10.24
Net EUI[2]	9.8	5.2	4.64	46.06
West Facing				
Gross EUI[1]	21.8	19.31	2.07	9.68
Net EUI[2]	9.8	5.31	4.33	44.92

Notes:
1. Gross EUI is Energy Use Total (not including PV) / Total Building Area.
2. Net EUI is Energy Use Total (including PV) / Total Building Area.

Registration Number: 223-P010031568M-000-000-0000000-0000 — Registration Date/Time: 2023-08-09 19:50:49 — HERS Provider: CalCERTS Inc.

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Project Name: El Dorado County Permit-Ready Accessory Dwelling Unit — **Calculation Date/Time:** 2023-08-09T18:03:22-07:00 — (Page 6 of 14)

Calculation Description: Title 24 Analysis — **Input File Name:** El Dorado County - Climate Zone 12- Final - 08.09.2023 .ribd22x

REQUIRED PV SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12
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. (%)	Annual Solar Access (%)
2.5	NA	Standard (16-17%)	Fixed	none	false	180	Degrees	22	4.85	96	100

REQUIRED SPECIAL FEATURES

The following are features that must be installed as condition for meeting the modeled energy performance in this compliance analysis.

- Insulation below roof deck
- Northwest Energy Efficiency Alliance (NEEA) rated heat pump water heater; specific brand/model, or equivalent, must be installed

HERS FEATURE SUMMARY

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 loading tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry.

- Quality insulation installation (QII)
- Indoor air quality ventilation
- Kitchen range hood
- Minimum Airflow
- Verified EER/EER2
- Verified SEER/SEER2
- Fan efficacy Watts/CFM
- Verified HSPF
- Verified heat pump rated heating capacity
- Dual fuel heat pump
- Duct leakage testing

BUILDING FEATURES INFORMATION

01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft²)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
El DoradoCounty Permit-Ready Accessory Dwelling Unit	996	1	2	1	0	1

Registration Number: 223-P010031568M-000-000-0000000-0000 — Registration Date/Time: 2023-08-09 19:50:49 — HERS Provider: CalCERTS Inc.

CA Building Energy Efficiency Standards - 2022 Residential Compliance — Report Version: 2022.0.000 — Schema Version: rev 20220901 — Report Generated: 2023-08-09 18:04:15

NOT FOR CONSTRUCTION

Waiver of Liability:
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PERMIT SET

El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE

TITLE 24
CLIMATE ZONE 12

PROJECT
- - -
SCALE
NTS
DRAWN BY
REX
DATE
11/10/2023

SHEET NUMBER
T2.0

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD — CF1R-PRF-01E

Project Name: El Dorado County Permit-Ready Accessory Dwelling Unit — Calculation Date/Time: 2023-08-09T18:03:22-07:00 — (Page 7 of 14)

Calculation Description: Title 24 Analysis — Input File Name: El Dorado County - Climate Zone 12 - Final - 08.09.2023 .ribd22x

ZONE INFORMATION

01 Zone Name	02 Zone Type	03 HVAC System Name	04 Zone Floor Area (ft²)	05 Avg. Ceiling Height	06 Water HeatingSystem 1	07 Status
Undefined Zone	Conditioned	CU-11	996	8.35	DHW Sys 1	New

OPAQUE SURFACES

01 Name	02 Zone	03 Construction	04 Azimuth	05 Orientation	06 Gross Area (ft²)	07 Window and Door Area (ft2)	08 Tilt (deg)
Exterior Wall E	Undefined Zone	Wall R-21 + R-18 (3 Rig)	90	left	140	25	90
Exterior Wall S	Undefined Zone	Wall R-21 + R-18 (3 Rig)	180	back	140	12	90
Exterior Wall E 2	Undefined Zone	Wall R-21 + R-18 (3 Rig)	90	left	150	25	90
Exterior Wall N	Undefined Zone	Wall R-21 + R-18 (3 Rig)	0	front	198	25	90
Exterior Wall S 2	Undefined Zone	Wall R-21 + R-18 (3 Rig)	180	back	116	25	90
Exterior Wall S 3	Undefined Zone	Wall R-21 + R-18 (3 Rig)	180	back	68	1.25	90
Exterior Wall S 4	Undefined Zone	Wall R-21 + R-18 (3 Rig)	180	back	210	25	90
Exterior Wall W	Undefined Zone	Wall R-21 + R-18 (3 Rig)	270	right	230	13	90
Interior Surface	Undefined Zone<>Undefined Zone	R-0	n/a	n/a	1	0	n/a
Interior Surface 2	Undefined Zone<>Undefined Zone	R-0	n/a	n/a	1	0	n/a
Interior Surface 3	Undefined Zone<>Undefined Zone	R-0	n/a	n/a	116	0	n/a
Interior Surface 4	Undefined Zone<>Undefined Zone	R-0	n/a	n/a	68	0	n/a
Interior Surface 5	Undefined Zone<>Undefined Zone	R-0	n/a	n/a	116	0	n/a
Interior Surface 6	Undefined Zone<>Undefined Zone	R-0	n/a	n/a	116	0	n/a
Interior Surface 7	Undefined Zone<>Undefined Zone	R-0	n/a	n/a	100	0	n/a

Registration Number: 223-P019031685H-000-000-0000000-000 — Registration Date/Time: 2023-08-09 19:50:49 — HERS Provider: CalCERTS Inc.

CA Building Energy Efficiency Standards - 2022 Residential Compliance — Report Version: 2022.0.000 — Schema Version: rv 20220901 — Report Generated: 2023-08-09 18:04:15

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD — CF1R-PRF-01E

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Calculation Description: Title 24 Analysis — Input File Name: El Dorado County - Climate Zone 12 - Final - 08.09.2023 .ribd22x

OPAQUE SURFACES

01 Name	02 Zone	03 Construction	04 Azimuth	05 Orientation	06 Gross Area (ft²)	07 Window and Door Area (ft2)	08 Tilt (deg)
Interior Surface 8	Undefined Zone<>Undefined Zone	R-0	n/a	n/a	68	0	n/a
Interior Surface 9	Undefined Zone<>Undefined Zone	R-0	n/a	n/a	100	0	n/a
Interior Surface 10	Undefined Zone<>Undefined Zone	R-0	n/a	n/a	37	0	n/a
Interior Surface 11	Undefined Zone<>Undefined Zone	R-0	n/a	n/a	138	0	n/a
roof	Undefined Zone	R-38 Roof Attic - Kitchen	n/a	n/a	174	u/a	n/a
Roof 2	Undefined Zone	R-38 Roof Attic - Kitchen	n/a	n/a	356	u/a	n/a
Roof 3	Undefined Zone	ROOF Attic R-38 Ceiling +	n/a	n/a	162	u/a	n/a
Roof 4	Undefined Zone	ROOF Attic R-38 Ceiling +	n/a	n/a	94	u/a	n/a
Roof 5	Undefined Zone	ROOF Attic R-38 Ceiling +	n/a	n/a	210	u/a	n/a
Interior Surface - Floor	Undefined Zone	Floor R19	n/a	n/a	174	u/a	n/a
Interior Surface - Floor 2	Undefined Zone	Floor R19	n/a	n/a	356	u/a	n/a
Interior Surface - Floor 3	Undefined Zone	Floor R19	n/a	n/a	162	u/a	n/a
Interior Surface - Floor 4	Undefined Zone	Floor R19	n/a	n/a	94	u/a	n/a
Interior Surface - Floor 5	Undefined Zone	Floor R19	n/a	n/a	210	u/a	n/a

ATTIC

01 Name	02 Construction	03 Type	04 Roof Rise (x in 12)	05 Roof Reflectance	06 Roof Emittance	07 Radiant Barrier	08 Cool Roof
Attic Unvented Zone	Attic RoofUndefined Zone	Ventilated	0	0.1	0.85	Yes	No

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Calculation Description: Title 24 Analysis — Input File Name: El Dorado County - Climate Zone 12 - Final - 08.09.2023 .ribd22x

FENESTRATION / GLAZING

01 Name	02 Type	03 Surface	04 Orientation	05 Azimuth	06 Width (ft)	07 Height (ft)	08 Mult.	09 Area (ft²)	10 U-factor	11 U-factor Source	12 SHGC	13 SHGC Source	14 Exterior Shading
Window	Window	Exterior Wall E	Left	90			1	25	0.3	NFRC	0.24	NFRC	Bug Screen
Window 2	Window	Exterior Wall S	Back	180			1	12	0.3	NFRC	0.24	NFRC	Bug Screen
Window 3	Window	Exterior Wall E 2	Left	90			1	25	0.3	NFRC	0.24	NFRC	Bug Screen
Window 4	Window	Exterior Wall N	Front	0			1	25	0.3	NFRC	0.24	NFRC	Bug Screen
Window 5	Window	Exterior Wall S 2	Back	180			1	25	0.3	NFRC	0.24	NFRC	Bug Screen
Window 6	Window	Exterior Wall S 3	Back	180			1	1.25	0.3	NFRC	0.24	NFRC	Bug Screen
Window 7	Window	Exterior Wall S 4	Back	180			1	25	0.3	NFRC	0.24	NFRC	Bug Screen
Window 8	Window	Exterior Wall W	Right	270			1	13	0.3	NFRC	0.24	NFRC	Bug Screen

OPAQUE SURFACE CONSTRUCTIONS

01 Construction Name	02 Surface Type	03 Construction Type	04 Framing	05 Total Cavity R-value	06 Interior / Exterior Continuous R-value	07 U-factor	08 Assembly Layers
Wall R-21 + R-18 (3 Rig)	Exterior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-21	None / 18	0.028	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Sheathing / Insulation: R-18 Sheathing Exterior Finish: All Other Siding

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OPAQUE SURFACE CONSTRUCTIONS

01 Construction Name	02 Surface Type	03 Construction Type	04 Framing	05 Total Cavity R-value	06 Interior / Exterior Continuous R-value	07 U-factor	08 Assembly Layers
R-0	Interior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-0	None / None	0.277	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Other Side Finish: Gypsum Board
Attic RoofUndefined Zone	Attic Roofs	Wood Framed Ceiling	2x6 @ 24 in. O. C.	R-11	None / 0	0.088	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-11 / 2x4
R-38 Roof Attic - Kitchen	Ceilings (below attic)	Wood Framed Ceiling	2x12 @ 16 in. O. C.	R-38	None / None	0.027	Over Ceiling Joists: R-8.8 insul. Cavity / Frame: R-29.3 / 2x12 Inside Finish: Gypsum Board
ROOF Attic R-38 Ceiling +	Ceilings (below attic)	Wood Framed Ceiling	2x12 @ 16 in. O. C.	R-38	None / None	0.027	Over Ceiling Joists: R-8.8 insul. Cavity / Frame: R-29.3 / 2x12 Inside Finish: Gypsum Board
Floor R19	Interior Floors	Wood Framed Floor	2x6 @ 24 in. O. C.	R-19	None / None	0.048	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 in 5-1/2 in. (R-18) / 2x6 Ceiling Below Finish: Gypsum Board

BUILDINGENVELOPE - HERS VERIFICATION

01 Quality Insulation Installation (QII)	02 High R-value Spray Foam Insulation	03 Building Envelope Air Leakage	04 CFM50	05 CFM50
Required	Not Required	N/A	n/a	n/a

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Calculation Description: Title 24 Analysis — Input File Name: El Dorado County - Climate Zone 12 - Final - 08.09.2023 .ribd22x

WATER HEATING SYSTEMS

01 Name	02 System Type	03 Distribution Type	04 Water Heater Name	05 Number of Units	06 Solar Heating System	07 Compact Distribution	08 HERS Verification	09 Water Heater Name (#)
DHW Sys 1	Domestic Hot Water (DHW)	Standard	DHW Heater 1	1	n/a	None	n/a	DHW Heater 1 (1)

WATER HEATERS - NEEA HEAT PUMP

01 Name	02 # of Units	03 Tank Vol. [gal]	04 NEEA Heat Pump Brand	05 NEEA Heat Pump Model	06 Tank Location	07 Duct Skin Air Source	08 Duct Outlet Air Source
DHW Heater 1	1	40	Rheem	RheemHPDH40T2R HJTRSO	Outside	Unitened Zone	Undefined Zone

WATER HEATING - HERS VERIFICATION

01 Name	02 Pipe Insulation	03 Parallel Piping	04 Compact Distribution	05 Compact Distribution Type	06 RecirculationControl	07 Shower Drain Water Heat Recovery
DHW Sys 1 - 1/1	Not Required	Not Required	Not Required	None	Not Required	Not Required

SPACE CONDITIONING SYSTEMS

01 Name	02 System Type	03 Heating Unit Name	04 Heating Equipment Count	05 Cooling Unit Name	06 Cooling Equipment Count	07 Fan Name	08 Distribution Name	09 Required Thermostat Type
CU-11	Heat pump heating existing	Heat Pump System 1	1	Heat Pump System 1	1	HVAC Fan 1	Air Distribution System 1	Setback

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Calculation Description: Title 24 Analysis — Input File Name: El Dorado County - Climate Zone 12 - Final - 08.09.2023 .ribd22x

HVAC - HEAT PUMPS

01 Name	02 System Type	03 Number of Units	04 Heating Efficiency Type	05 Heating HSPF / HSPF2 / COP	06 Heating Cap 47	07 Heating Cap 17	08 Cooling Efficiency Type	09 Cooling SEER / SEER2	10 Cooling EER / EER / CEER	11 Zonally Controlled	12 Compressor Type	13 HERS Verification
Heat Pump System 1	Central split HP	1	HSPF	11.5	24700	14000	EER/CEER	18.8	12.5	Not Zonal	Single Speed	Heat Pump System 1-hers-htpump

HVAC HEAT PUMPS - HERS VERIFICATION

01 Name	02 Verified Airflow	03 Airflow Target	04 Verified EER/EER2	05 Verified SEER/SEER2	06 Verified Refrigerant Charge	07 Verified HSPF/HSPF2	08 Verified Heating Cap 47	09 Verified Heating Cap 17
Heat Pump System 1-hers-htpump	Required	350	Required	Required	No	Yes	Yes	Yes

HVAC - DISTRIBUTION SYSTEMS

01 Name	02 Type	03 Design Type	04 Duct Ins. R-value Supply	05 Duct Ins. R-value Return	06 Duct Location Supply	07 Duct Location Return	08 Surface Area Supply	09 Surface Area Return	10 Bypass Duct	11 hct Leakage	12 HERS Verification
Air Distribution System 1	Unconditioned attic	Non-Verified	R-6	R-6	Attic	Attic	n/a	n/a	No Bypass Duct	Sealed and Tested	Air Distribution System 1-hers-dist

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El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE

TITLE 24
CLIMATE ZONE 12

PROJECT
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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD — CF1R-PRF-01E

Project Name: El Dorado County Permit-ready Accessory Dwelling Unit — Calculation Date/Time: 023-08-09T18:03:22-07:00 — (Page 13 of 14)

Calculation Description: Title 24 Analysis — Input File Name: El Dorado County - Climate Zone 12 - Final -08.09.2023 .ribd22x

HVAC DISTRIBUTION - HERS VERIFICATION

01	02	03	04	05	06	07	08	09
Name	Duct Leakage Verification	Duct Leakage Target (%)	Verified Duct Location	Verified Duct Design	Buried Duct:	Deeply Buried Ducts	Low-leakage Air Handler	Low Leakage Ducts Entirely in Conditioned Space
Air Distribution System 1-hers-dist	FIS	5.0	Not Required	Not Required	Not Required	Credit not taken	Not Required	No

HVAC - FAN SYSTEMS

01	02	03	04
Name	Type	Fan Power (Watts/CFM)	Name
HVAC Fan 1	HVAC Fan	0.58	HVAC Fan 1-hers-fan

HVAC FAN SYSTEMS - HERS VERIFICATION

01	02	03
Name	Verified Fan Watt Draw	Required Fan Efficacy (Watts/CFM)
HVAC Fan 1-hers-fan	Required	0.58

INDOOR AIR QUALITY (IAQ) FANS

01	02	03	04	05	06	07	08	09
Dwelling Unit	Airflow (CFM)	Fan Efficacy (W/CFM)	IAQ Fan Type	Includes Heat/Energy Recovery?	IAQ Recover: Effectiveness - RE	Includes Fault Indicator Display?	HERS Verification	Status
SFam IAQVentFan	51	0.35	Exhaust	No	n/a	No	Yes	

Registration Number: 223-P010315894-000-005-0000000-0000 — Registration Date/Time: 2023-08-09 19:01:03 — HERS Provider: CalCERTS Inc.

CA building Energy Efficiency Standards - 2022 Residential Compliance — Report Version: 2022.0.000, Schema Version: rev 20220901 — Report Generated: 2023-08-09 18:04:15

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD — CF1R-PRF-01E

Project Name: El Dorado County Permit-ready Accessory Dwelling Unit — Calculation Date/Time: 023-08-09T18:03:22-07:00 — (Page 14 of 14)

Calculation Description: Title 24 Analysis — Input File Name: El Dorado County - Climate Zone 12 - Final -08.09.2023 .ribd22x

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:	Documentation Author Signature:
Shawn Shahfar	Shawn Shahfar
Company: REX Engineering Group	Signature Date: 2023-08-09 18:06:32
Address: 1060 Corporate Center Dr.	CEA/HERS Certification Identification (if applicable):
City/State/Zip: Monterey Park, CA 91754	Phone: 323-262-9199

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance.
2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
3. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliancedocuments, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.

Responsible Designer Name:	Responsible Designer Signature:
Rachel Allen	Rachel Allen
Company: RADAR, Inc.	Date Signed: 2023-08-09 19:50:49
Address: 421 Gin Ling Way	License: C28585
City/State/Zip: Los Angeles, CA 90012	Phone: 213-617-0075 103

Digitally signed by CalCERTS. This digital signature is provided in order to secure the content of this registered document, and inno way implies Registration Provider responsibility for the accuracy of the information.

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Registration Number: 223-P010315894-000-002-0000000-0000 — Registration Date/Time: 2023-08-09 19:50:49 — HERS Provider: CalCERTS Inc.

CA building Energy Efficiency Standards - 2022 Residential Compliance — Report Version: 2022.0.000, Schema Version: rev 20220901 — Report Generated: 2023-08-09 18:04:15

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El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE

TITLE 24
CLIMATE ZONE 12

PROJECT
--
SCALE
NTS
DRAWN BY
REX
DATE
11/10/2023

SHEET NUMBER
T2.2

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD — CF1R-PRF-01E

Project Name: El Dorado County Permit-Ready Accessory Dwelling Unit — **Calculation Date/Time:** 2023-08-09T18:00:20-07:00 — (Page 1 of 14)

Calculation Description: Title 24 Analysis — **Input File Name:** El Dorado County - Climate Zone 16 - Final - 08.09.2023 .ribd22x

GENERAL INFORMATION

01	Project Name	El Dorado County Permit-Ready Accessory Dwelling Unit			
02	Run Title	Title 24 Analysis			
03	Project Location	,			
04	City		05	Standards Version	2022
06	Zip code		07	Software Version	EnergyPro 9.1
08	Climate Zone	16	09	Front Orientation (deg/ Cardinal)	All orientations
10	Building Type	Singlefamily	11	Number of Dwelling Units	1
12	Project Scope	Newly Constructed	13	Number of Bedrooms	2
14	Addition Cond. Floor Area (ft²)	0	15	Number of Stories	1
16	Existing Cond. Floor Area (ft²)	n/a	17	Fenestration Average U-factor	0.3
18	Total Cond. Floor Area (ft²)	996	19	Glazing Percentage (%)	15.4%
20	ADU Bedroom Count	n/a			

COMPLIANCE RESULTS

01	Building Complies with Computer Performance
02	This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider.
03	This building incorporates one or more Special Features shown below

Registration Number: 223-P010041980F-000-000-0000000-000C — Registration Date/Time: 2023-08-09 10:50:16 — HERS Provider: CalCERTS Inc.

CA Building Energy Efficiency Standards - 2022 Residential Compliance — Report Version: 2022.0.000 — Schema Version: rev 20220901 — Report Generated: 2023-08-09 18:01:10

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD — CF1R-PRF-01E

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Calculation Description: Title 24 Analysis — **Input File Name:** El Dorado County - Climate Zone 16 - Final - 08.09.2023 .ribd22x

ENERGY DESIGN RATINGS

	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency[1] EDR (EDR2efficiency)	Total[2] EDR (EDR2total)	Source Energy (EDR1)	Efficiency[1] EDR (EDR2efficiency)	Total[2] EDR (EDR2total)
Standard Design	12.1	59.1	11.4			
Proposed Design						
North Facing	11.9	49.5	11.7	10.2	9.6	9.9
East Facing	12.8	52	33	9.3	7.1	8.6
South Facing	14.1	56.2	35	8	2.9	6.6
West Facing	14.3	57.8	8.7	7.8	1.3	5.9

RESULT[3]: PASS

[1]Efficiency EDR includes improvements like a better building envelope and more efficient equipment.
[2]Total EDR includes efficiency and demand response measures such as photovoltaic (PV) systems and batteries.
[3]Buildingsmodels whose source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded

- Standard Design PV Capacity: 2.08 kWdc

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ENERGY USE SUMMARY

Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft²-yr)	Standard Design TDV Energy (EDR2) (kTDV/ft²-yr)	Proposed Design Source Energy (EDR1)(kBtu/ft²-yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft²-yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	5.45	24.46	2.85	29.76	2.6	-5.3
Space Cooling	0.75	9.76	0.62	10.06	0.13	-0.3
IAQ Ventilation	0.4	4.36	0.0	4.36	0	0
Water Heating	3.14	41.61	1.87	23.02	1.27	18.59
Self Utilization/Flexibility credit				0		0
North Facing Efficiency Compliance Total	**9.74**	**80.19**	**5.34**	**67.2**	**4**	**12.99**
Space Heating	5.45	24.46	2.99	31.06	2.46	-6.6
Space Cooling	0.75	9.76	0.62	12.05	0.16	-2.29
IAQ Ventilation	0.4	4.36	0.0	4.36	0	0
Water Heating	3.14	41.63	1.87	23.04	1.27	18.57
Self Utilization/Flexibility credit				0		0
East Facing Efficiency Compliance Total	**9.74**	**80.19**	**6.7**	**70.51**	**3.57**	**9.68**

Registration Number: 223-P010041980F-000-000-0000000-000C — Registration Date/Time: 2023-08-09 10:50:16 — HERS Provider: CalCERTS Inc.

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ENERGY USE SUMMARY

Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft²-yr)	Standard Design TDV Energy (EDR2) (kTDV/ft²-yr)	Proposed Design Source Energy (EDR1)(kBtu/ft²-yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft²-yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	5.45	24.46	3.77	40.2	1.68	-15.74
Space Cooling	0.75	9.76	0.7	8.5	0.05	1.26
IAQ Ventilation	0.4	4.36	0.4	4.36	0	0
Water Heating	3.14	41.61	1.88	23.19	1.26	18.42
Self Utilization/Flexibility credit				0		0
South Facing Efficiency Compliance Total	**9.74**	**80.19**	**6.25**	**76.25**	**2.99**	**3.94**
Space Heating	5.45	24.46	3.85	40.81	1.6	-16.35
Space Cooling	0.75	9.76	0.69	10.07	0.06	-0.31
IAQ Ventilation	0.4	4.36	0.4	4.36	0	0
Water Heating	3.14	41.63	1.88	23.15	1.26	18.46
Self Utilization/Flexibility credit				0		0
West Facing Efficiency Compliance Total	**9.74**	**80.19**	**6.82**	**78.33**	**2.92**	**1.8**

Registration Number: 223-P010041980F-000-000-0000000-000C — Registration Date/Time: 2023-08-09 10:50:16 — HERS Provider: CalCERTS Inc.

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD — CF1R-PRF-01E

Project Name: El Dorado County Permit-Ready Accessory Dwelling Unit — **Calculation Date/Time:** 2023-08-09T18:00:20-07:00 — (Page 5 of 14)

Calculation Description: Title 24 Analysis — **Input File Name:** El Dorado County - Climate Zone 16 - Final - 08.09.2023 .ribd22x

ENERGY USE INTENSITY

	Standard Design (kBtu/ft² - yr)	Proposed Design (kBtu/ft² - yr)	Compliance Margin (kBtu/ft² - yr)	Margin Percentage
North Facing				
Gross EUI[1]	25.15	21.08	4.77	18.45
Net EUI[2]	14.78	6.58	7.7	53.92
East Facing				
Gross EUI[1]	25.15	21.43	4.42	17.1
Net EUI[2]	14.78	6.93	7.35	51.47
South Facing				
Gross EUI[1]	25.5	21.74	4.11	15.9
Net EUI[2]	14.78	7.23	7.05	49.37
West Facing				
Gross EUI[1]	25.5	21.93	3.92	15.16
Net EUI[2]	14.78	7.43	6.85	47.97

Notes
1. Gross EUI is Energy Use Total (not including PV) / Total Building Area.
2. Net EUI is Energy Use Total (including PV) / Total Building Area.

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REQUIRED PV SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12
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. (%)	Annual Solar Access (%)
2.1	NA	Standard (14-17%)	Fixed	none	false	180	Degrees	22	4.85	96	100

REQUIRED SPECIAL FEATURES

The following are features that must be installed as condition for meeting the modeled energy performance in this consumer analysis.

- Insulation below roof deck
- Northwest Energy Efficiency Alliance (NEEA) listed hot pump water heater; specific brand/model, or equivalent, must be installed

HERS FEATURE SUMMARY

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 loading tables below. Registered CFIRs and CF3Rs are required to be completed in the HERS Registry.

- Quality insulation installation (QII)
- Indoor air quality ventilation
- Kitchen range hood
- Minimum Airflow
- Verified EER/EER2
- Verified SEER/SEER2
- Fan Efficacy Watts/CFM
- Verified HSPF
- Verified heat pump rated heating capacity
- Duct leakage testing

BUILDING - FEATURES INFORMATION

01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft²)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
El Dorado County Permit-Ready Accessory Dwelling Unit	996	1	2	1	0	1

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PERMIT SET

El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE

TITLE 24
CLIMATE ZONE 16

PROJECT
- - -
SCALE
NTS
DRAWN BY
REX
DATE
11/10/2023

SHEET NUMBER
T3.0

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD — CF1R-PRF-01E

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ZONE INFORMATION

01 Zone Name	02 Zone Type	03 HVAC System Name	04 Zone Floor Area (ft²)	05 Avg. Ceiling Height	06 Water HeatingSystem 1	07 Status
Undefined Zone	Conditioned	CU-11	999	8.75	DHW Sy: 1	New

OPAQUE SURFACES

01 Name	02 Zone	03 Construction	04 Azimuth	05 Orientation	06 Gross Area (ft²)	07 Window and Door Area (ft2)	08 Tilt (deg)
Exterior Wall E	Undefined Zone	Wall R-21 + R-6 (1 Rigid	90	Left	140	25	90
Exterior Wall S	Undefined Zone	Wall R-21 + R-6 (1 Rigid	180	Back	140	12	90
Exterior Wall E 2	Undefined Zone	Wall R-21 + R-6 (1 Rigid	90	Left	158	25	90
Exterior Wall N	Undefined Zone	Wall R-21 + R-6 (1 Rigid	0	Front	198	25	90
Exterior Wall S 2	Undefined Zone	Wall R-21 + R-6 (1 Rigid	180	Back	116	25	90
Exterior Wall S 3	Undefined Zone	Wall R-21 + R-6 (1 Rigid	180	Back	68	125	90
Exterior Wall S 4	Undefined Zone	Wall R-21 + R-6 (1 Rigid	180	Back	210	25	90
Exterior Wall W	Undefined Zone	Wall R-21 + R-6 (1 Rigid	270	Right	230	13	90
Interior Surface	Undefined Zone=>Undefined Zone	R-0	n/a	n/a	1	0	n/a
Interior Surface 2	Undefined Zone=>Undefined Zone	R-0	n/a	n/a	1	0	n/a
Interior Surface 3	Undefined Zone=>Undefined Zone	R-0	n/a	n/a	116	0	n/a
Interior Surface 4	Undefined Zone=>Undefined Zone	R-0	n/a	n/a	68	0	n/a
Interior Surface 5	Undefined Zone=>Undefined Zone	R-0	n/a	n/a	118	0	n/a
Interior Surface 6	Undefined Zone=>Undefined Zone	R-0	n/a	n/a	116	0	n/a
Interior Surface 7	Undefined Zone=>Undefined Zone	R-0	n/a	n/a	100	0	n/a

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OPAQUE SURFACES

01 Name	02 Zone	03 Construction	04 Azimuth	05 Orientation	06 Gross Area (ft²)	07 Window and Door Area (ft2)	08 Tilt (deg)
InteriorSurface 8	Undefined Zone=>Undefined Zone	R-0	n/a	n/a	68	0	n/a
InteriorSurface 9	Undefined Zone=>Undefined Zone	R-0	n/a	n/a	100	0	n/a
InteriorSurface 10	Undefined Zone=>Undefined Zone	R-0	n/a	n/a	37	0	n/a
InteriorSurface 11	Undefined Zone=>Undefined Zone	R-0	n/a	n/a	138	0	n/a
Roof	Undefined Zone	R-38 Roof Attic - Kitchen	n/a	n/a	174	n/a	n/a
Roof 2	Undefined Zone	R-38 Roof Attic - Kitchen	n/a	n/a	256	n/a	n/a
Roof 3	Undefined Zone	ROOF Attic R-38 Ceiling +	n/a	n/a	162	n/a	n/a
Roof 4	Undefined Zone	ROOF Attic R-38 Ceiling +	n/a	n/a	94	n/a	n/a
Roof 5	Undefined Zone	ROOF Attic R-38 Ceiling +	n/a	n/a	210	n/a	n/a
Interior Surface - Floor	Undefined Zone	Floor R19	n/a	n/a	174	n/a	n/a
Interior Surface - Floor 2	Undefined Zone	Floor R19	n/a	n/a	356	n/a	n/a
Interior Surface - Floor 3	Undefined Zone	Floor R19	n/a	n/a	162	n/a	n/a
Interior Surface - Floor 4	Undefined Zone	Floor R19	n/a	n/a	94	n/a	n/a
Interior Surface - Floor 5	Undefined Zone	Floor R19	n/a	n/a	210	n/a	n/a

ATTIC

01 Name	02 Construction	03 Type	04 Roof Rise (x in 12)	05 Roof Reflectance	06 Roof Emittance	07 Radiat Barrier	08 Cool Roof
Attic Undefined Zone	Attic RoofUndefined Zone	Ventilated	0	0.1	0.85	no	No

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FENESTRATION / GLAZING

01 Name	02 Type	03 Surface	04 Orientation	05 Azimuth	06 Width (ft)	07 Height (ft)	08 Mult.	09 Area (ft²)	10 U-factor	11 U-factor Source	12 SHGC	13 SHGC Source	14 Exterior Shading
Window	Window	Exterior Wall E	Left	90			1	25	0.3	NFRC	0.65	NFRC	Bug Screen
Window 2	Window	Exterior Wall S	Back	180			1	12	0.3	NFRC	0.65	NFRC	Bug Screen
Window 3	Window	Exterior Wall E 2	Left	90			1	25	0.3	NFRC	0.65	NFRC	Bug Screen
Window 4	Window	Exterior Wall N	Front	0			1	25	0.3	NFRC	0.65	NFRC	Bug Screen
Window 5	Window	Exterior Wall S 2	Back	180			1	25	0.3	NFRC	0.65	NFRC	Bug Screen
Window 6	Window	Exterior Wall S 3	Back	180			1	3.25	0.3	NFRC	0.65	NFRC	Bug Screen
Window 7	Window	Exterior Wall S 4	Back	180			1	25	0.3	NFRC	0.65	NFRC	Bug Screen
Window 8	Window	Exterior Wall W	Right	270			1	13	0.3	NFRC	0.65	NFRC	Bug Screen

OPAQUE SURFACE CONSTRUCTIONS

01 Construction Name	02 Surface Type	03 Construction Type	04 Framing	05 Total Cavity R-value	06 Interior / Exterior Continuous R-value	07 U-factor	08 Assembly Layers
Wall R-21 + R-6 (1 Rigid	Exterior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-21	None / 6	0.045	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Sheathing / Insulation: R-6 Sheathing Exterior Finish: All Other Siding

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OPAQUE SURFACE CONSTRUCTIONS

01 Construction Name	02 Surface Type	03 Construction Type	04 Framing	05 Total Cavity R-value	06 Interior / Exterior Continuous R-value	07 U-factor	08 Assembly Layers
R-0	Interior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-0	None / None	0.277	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Other Side Finish: Gypsum Board
Attic RoofUndefined Zone	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-9	None / 0	0.108	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-9 / 2x4
R-38 Roof Attic - Kitchen	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 16 in. O. C.	R-38	None / None	0.025	Over Ceiling Joists: R-28.9 Insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board
ROOF Attic R-38 Ceiling +	Ceilings (below attic)	Wood Framed Ceiling	2x12 @ 16 in. O. C.	R-38	None / None	0.027	Over Ceiling Joists: R-8.8 Insul. Cavity / Frame: R-29.3 / 2x12 Inside Finish: Gypsum Board
Floor R19	Interior Floors	Wood Framed Floor	2x6 @ 24 in. O. C.	R-19	None / None	0.048	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 in 5-1/2 in. (R-18) / 2x6 Ceiling Below Finish: Gypsum Board

BUILDINGENVELOPE - HERS VERIFICATION

01 Quality Insulation Installation (QII)	02 High R-value Spray Foam Insulation	03 Building Envelope Air Leakage	04 CFM50	05 CFM50
Required	Not Required	N/A	n/a	n/a

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WATER HEATING SYSTEMS

01 Name	02 System Type	03 Distribution Type	04 Water Heater Name	05 Number of Units	06 Solar Heating System	07 Compact Distribution	08 HERS Verification	09 Water Heater Name (#)
DHWSys 1	Domestic Hot Water (DHW)	standard	DHW Heater 1	1	n/a	None	n/a	DHW Heater 1 (1)

WATER HAETERS - NEEA HEAT PUMP

01 Name	02 # of Units	03 Tank Vol. (gal)	04 NEEA Heat Pump Brand	05 NEEA Heat Pump Model	06 Tank Location	07 Duct Hilit Air Source	08 Duct Outlet Air Source
DHW Heater 1	1	40	Rheem	RheemRGPHA40T2R H/P50	Outside	Undefined Zone	Undefined Zone

WATER HIATING - HERS VERIFICATION

01 Name	02 Pipe Insulation	03 Parallel Piping	04 Compact Distributios	05 Compact Distribution Type	06 RecirculationControl	07 Shower Drain Water Heat Recovery
DHW Sys 1 - 1/1	Not Required	Not Required	Not Required	None	Not Required	Not Required

SPACE CONDITIONING SYSTEMS

01 Name	02 System Type	03 Heating Unit Name	04 Heating Equipment Count	05 Cooling Unit Name	06 Cooling Equipment Count	07 Fan Name	08 Distribution Name	09 Required Thermostat Type
CU11	Heat pump heating cooling	Heat Pump System 1	1	Heat Pump System 1	1	HVAC Fan 1	Air Distribution System 1	Setback

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Calculation Description: Title 24 Analysis — **Input File Name:** El Dorado County - Climate Zone 16 - Final - 08.09.2023 .ribd22x

HVAC - HEAT PUMPS

01 Name	02 System Type	03 Number of Units	04 Heating Efficiency Type	05 Heating HSPF / HSPF2 / COP	06 Heating Cap 47	07 Heating Cap 17	08 Cooling Efficiency Type	09 Cooling SEER / SEER2	10 Cooling EER / EER / CEER	11 Zonally Controlled	12 Compressor Type	13 HERS Verification
Heat Pump System 1	Central split HP	1	HSPF	11.5	24700	14000	SEER/EER	18.8	12.5	Not Zonal	Single Speed	Heat Pump System 1-hers-hspump

HVAC HEAT PUMPS - HERS VERIFICATION

01 Name	02 Verified Airflow	03 Airflow Target	04 Verified EER/CEER2	05 Verified SEER/SEER2	06 Verified Refrigerant Charge	07 Verified HSPF/HSPF2	08 Verified Heating Cap 47	09 Verified Heating Cap 17
Heat Pump System 1-hers-hspump	Required	350	Required	Required	No	Yes	Yes	Yes

HVAC - DISTRIBUTION SYSTEMS

01 Name	02 Type	03 Design Type	04 Duct Ins. R-value Supply	05 Duct Ins. R-value Return	06 Duct Location Supply	07 Duct Location Return	08 Surface Area Supply	09 Surface Area Return	10 Bypass Duct	11 Duct Leakage	12 HERS Verification
Air Distribution System 1	Unconditioned attic	Non-Verified	R-6	R-6	Attic	Attic	n/a	n/a	No Bypass Duct	Sealed and Tested	Air Distribution System 1-hers-dist

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PERMIT SET

El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE

TITLE 24
CLIMATE ZONE 16

PROJECT
- - -
SCALE
NTS
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DATE
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SHEET NUMBER
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HVAC DISTRIBUTION - HERS VERIFICATION

01	02	03	04	05	06	07	08	09
Name	Duct Leakage Verification	Duct Leakage Target (%)	Verified Duct Location	Verified Duct Design	Buried Duct:	Deeply Buried Ducts	Low-leakage Air Handler	Low Leakage Ducts Entirely in Conditioned Space
Air Distribution System 1-hers-dist	Yes	5.0	Not Required	Not Required	Not Required	Credit not taken	Not Required	No

HVAC - FAN SYSTEMS

01	02	03	04
Name	Type	Fan Power (Watts/CFM)	Name
HVAC Fan 1	HVAC Fan	0.58	HVAC Fan 1-hers-fan

HVAC FAN SYSTEMS - HERS VERIFICATION

01	02	03
Name	Verified Fan Watt Draw	Required Fan Efficacy (Watts/CFM)
HVAC Fan 1-hers-fan	Required	0.58

INDOOR AIR QUALITY (IAQ) FANS

01	02	03	04	05	06	07	08	09
Dwelling Unit	Airflow (CFM)	Fan Efficacy (W/CFM)	IAQ Fan Type	Includes Heat/Energy Recovery?	IAQ Recovery Effectiveness - IRE	Includes Fault Indicator Display?	HERS Verification	Status
SFam IAQVentRpt	31	0.35	Exhaust	No	n/a	No	Yes	

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:	Documentation Author Signature:
Shawn Shahfar	Shawn Shahfar
Company: REX Engineering Group	Signature Date: 2023-08-09 18:07:19
Address: 1000 Corporate Center Dr.	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Monterey Park, CA 91754	Phone: 323-262-9199

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance.
2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
3. 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.

Responsible Designer Name: Rachel Allen	Responsible Designer Signature: Rachel Allen
Company: RAJAR, Inc.	Date Signed: 2023-08-09 18:50:16
Address: 422 Gin Ling Way	License: C28585
City/State/Zip: Los Angeles, CA 90012	Phone: 213-617-0075 103

Digitally signed by CalCERTS. This digital signature is provided in order to secure the content of this registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.

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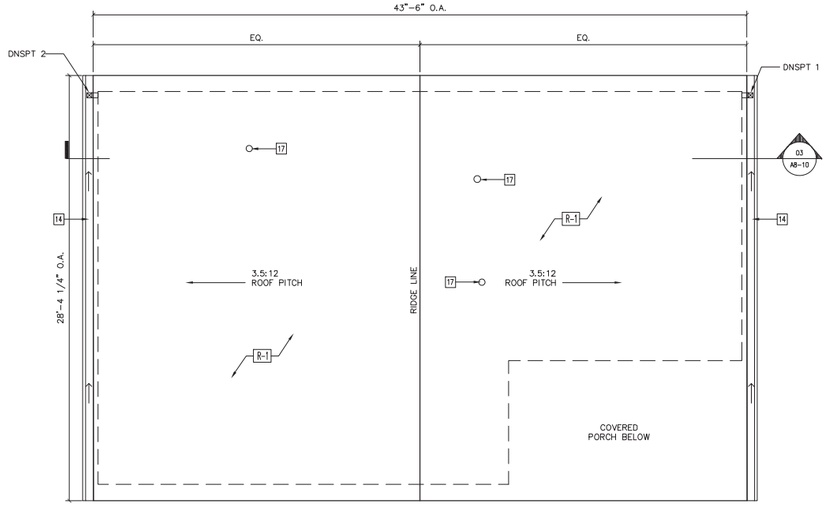
El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE

TITLE 24
CLIMATE ZONE 16

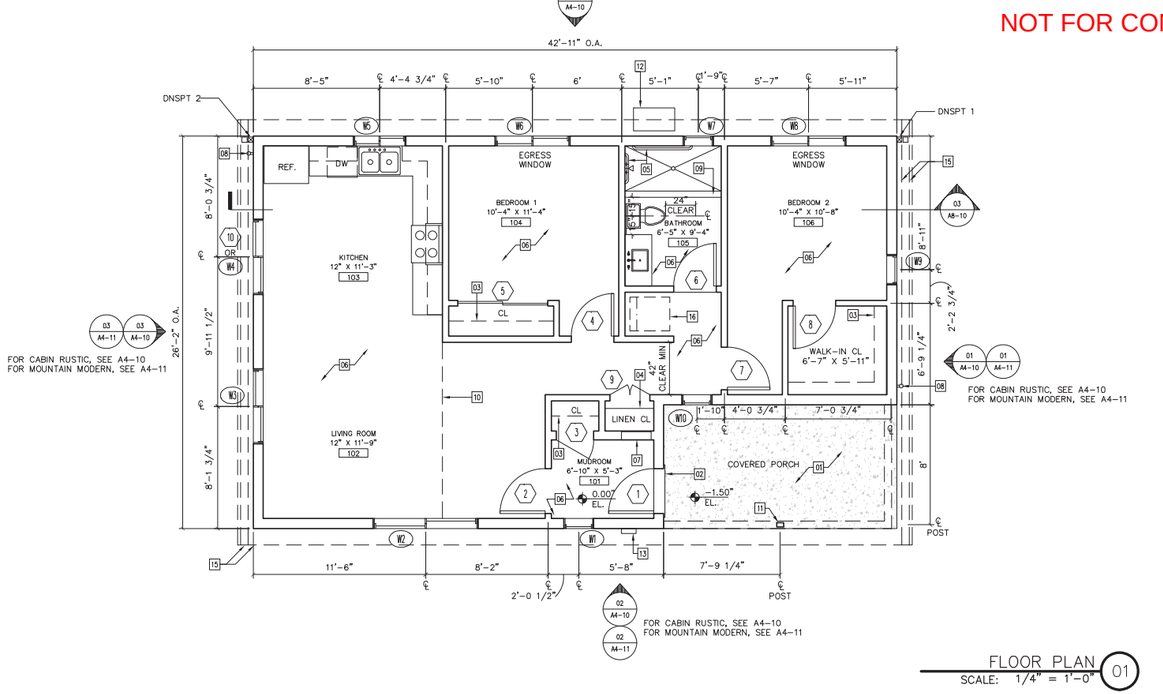
PROJECT
- -
SCALE
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DRAWN BY
REX
DATE
11/10/2023

SHEET NUMBER
T3.2



ROOF PLAN
SCALE: 1/4" = 1'-0" 02

04 A4-11 / 04 A4-10 FOR CABIN RUSTIC, SEE A4-10 FOR MOUNTAIN MODERN, SEE A4-11



FLOOR PLAN
SCALE: 1/4" = 1'-0" 01

NOT FOR CONSTRUCTION

GENERAL NOTES:

1. SEE A3-10 FOR SUGGESTED CA GREEN CODE-COMPLIANT APPLIANCE AND PLUMBING FIXTURE SCHEDULES.
2. SEE A4-10/A4-11 FOR FINISH SCHEDULE.
3. SEE A8-10 FOR DOOR/WINDOW SCHEDULE.
4. R-21 INSULATION TO BE INSTALLED WITHIN ALL EXTERIOR WALLS.
5. R-38 INSULATION TO BE INSTALLED BETWEEN RAFTERS A CATHEDRAL CEILING
6. R-38 INSULATION TO BE INSTALLED IN ATTIC ON CEILING SURFACE.
7. R-19 INSULATION TO BE INSTALLED BETWEEN RAFTERS BELOW ROOF DECK AT ATTIC.
8. R-19 INSULATION TO BE INSTALLED WITHIN THE RAISED FLOOR.
9. IF REQUIRED BY BUILDING OFFICIAL, 1-HR FIRE RATED WALL CONSTRUCTION, SEE 04/A9-12.
10. ONE PARKING SPACE PER SITE, PROVIDE EV CHARGING STATION.

KEYNOTES:

01 CONCRETE PORCH, FINISH TBD BY OWNER
02 1-1/2" MAX. HEIGHT TO TOP OF DOOR THRESHOLD
03 HANGING ROD + SHELF ABOVE
04 SHELVING TBD BY OWNER
05 ACCESSIBLE SHOWER GRAB BARS, AS NEEDED. SEE DETAIL 01/A9-12 FOR BLOCKING
06 INTERIOR FLOOR FINISH TBD BY OWNER
07 ELECTRICAL PANEL, SEE ELECTRICAL SHEETS
08 EXTERIOR HOSE BIB, SEE PLUMBING SHEETS
09 SHOWER CURB
10 LINE OF EDGE OF CEILING SOFFIT ABOVE
11 WOOD POST
12 CONDENSER UNIT, LOCATION BY SITE AND CONFIRMED BY BUILDING OFFICIAL, SEE M3.01
13 WALL-MOUNTED EV CHARGING STATION, SEE E3.01
14 CONTINUOUS BOX GUTTER
15 LINE OF ROOF & GUTTERS ABOVE
16 STACKED WASHER & DRYER
17 VENT, SEE PLUMBING SET

MINIMUM DOWNSPOUT & GUTTER SIZES (O.A. OUTSIDE DIM.)		
GUTTER	MIN. WIDTH	4 IN.
	MIN. DEPTH	3 IN.
DOWNSPOUT	IF ROUND, MIN SIZE	3 IN.
	IF RECTANGULAR, MIN SIZE	1.75 X 2.25 IN.

ROOFING MATERIAL
R-1 CLASS A ROOFING
CABIN RUSTIC: SEE A4-10
MOUNTAIN MODERN: SEE A4-11

SYMBOL LEGEND

1 KEYNOTE
S SMOKE DETECTOR
CM CARBON-MONOXIDE DETECTOR
EXHAUST FAN
CEILING MTD. LIGHT FIXTURE
WALL MTD. LIGHT FIXTURE
A WINDOW
1 DOOR
HB HOSE BIB
B-1 FINISH
LEVEL EL ELEVATION/HEIGHT

Waiver of Liability:
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PERMIT SET

El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE
FLOOR PLAN &
ROOF PLAN

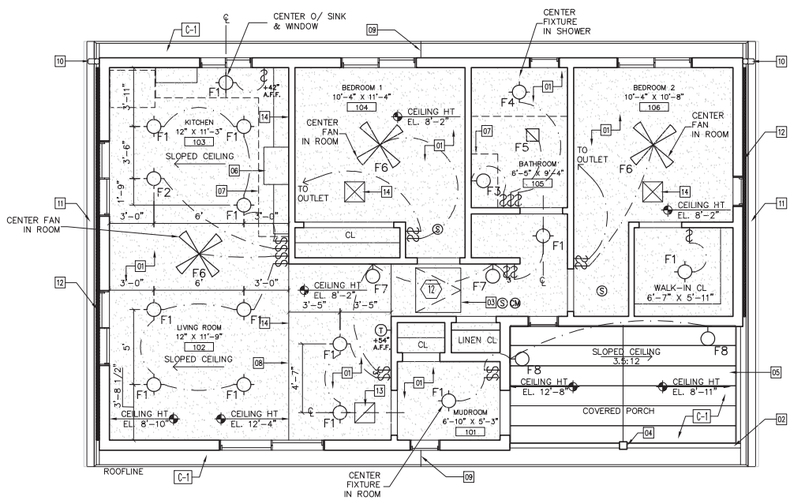
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SCALE
1/4"=1'-0"
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DATE
11/10/2023

SHEET NUMBER
A2-10

SUGGESTED APPLIANCE & PLUMBING SCHEDULE FOR CALGREEN CODE COMPLIANCE

LOCATION	ITEM	SUGGESTED MANUFACTURER	SUGGESTED MODEL #	FINISH	QTY.	NOTES
KITCHEN	Refrigerator/Freezer	GE	GIE19JSNRSS	TBD	1	ENERGY STAR® 19.2 Cu. Ft. Top-Freezer Refrigerator; Volts/Hertz/Amps 120v; 60Hz; 15A
	Sink	American Standard	18DBo332211.075	TBD	1	ADA Compliant, as user-necessary
	Faucet	American Standard	7074300.002	TBD	1	1.8 Gallons/Min. at 60 psi. max. flow rate:
	Air Gap Dishwasher Kit	Jones Stephens Corp.	A10-160	TBD	1	Included: Dishwasher elbow & vacuum breaker.
	Disposal	GE	GFB760N	TBD	1	3/4 HP Batch Feed Garbage Disposer Non-Corded; Power Connection Direct Wire Volts/Hertz/Amps 120 V; 60 Hz; 6.0 A
	Dishwasher	GE	GDT630PYRFS	TBD	1	Air vent required. Top Control; Calrod Heater Watts 800/500; Electrical Requirements 120V ; 60Hz ; 7.1A
	Range	GE	JBS58RTSS	TBD	1	30" Free-Standing Coil-Cooktop; Amp Rating at 208V 40 Amp Rating at 240V 40 Bake Wattage 3410W Broiler Wattage 3000W KW Rating at 208V 9.1 KW Rating at 240V 12.1
	Hood	GE	JVX5305SJSS	TBD	1	30" ENERGY STAR Certified Under The Cabinet Hood; Two-speed, 270-CFM venting system; Amp Rating at 120V 1.0; Exhaust Options: Recirculating or Vented to Outside
BATH	Toilet	American Standard	2961A104SC.020	TBD	1	1.28 Gallons/Flush max. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specifications for Tank-type Toilets.
	Sink	American Standard	150000.02	TBD	1	Under Counter Sink
	Faucet	American Standard	2064101.020	TBD	1	1.2 Gallons/Min at 60 psi max,0.8 gallons/min at 20 psi min.
	Shower & Trim	American Standard	T0064507.002	TBD	1	1.8 Gallons/Min. at 80 psi. max. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.
	Mirror Cabinet	TBD	TBD	TBD	1	TBD by owner.
LAUNDRY	Ventless Washer/Dryer	GE	GUD27ESNWW	TBD	1	ENERGY STAR® 3.9 cu. ft. Capacity; Circuit Breaker or Time Delay Fuse 30 Amp; Volts/Hertz 120/240V or 120/208V; 60Hz
	**Based on 2022 California Green Building Code					

NOT FOR CONSTRUCTION



REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0" 01

GENERAL NOTES:

1. SEE A2-10 FOR MINIMUM DOWNSPOUT AND GUTTER SIZES
2. SEE A3-10 FOR PLUMBING FIXTURE MAX WATER USE
3. SEE A4-10/A4-11 FOR EXTERIOR FINISH SCHEDULE
4. ALL OUTDOOR LIGHTING SHALL USE FULL CUTOFF FIXTURES THAT ARE DESIGNED AND CONSTRUCTED SO THAT NO LIGHT IS EMITTED FROM THE TOP OR SIDES OF THE FIXTURE. LIGHTING MUST BE PLACED AT A LOCATION, ANGLE OR HEIGHT TO PREVENT DIRECT ILLUMINATION OUTSIDE THE PROPERTY BOUNDARIES WHERE THE LIGHT FIXTURES ARE LOCATED

KEYNOTES:

01 PAINTED GYP. BD. FINSH (INTERIOR)
02 EXPOSED WOOD BEAMS, FINISH TBD BY OWNER.
03 ACCESS HATCH TO NON-HABITABLE ATTIC FOR EQUIPMENT
04 WOOD POST, SEE STRUCTURAL
05 FIBER CEMENT ROOF PANEL @ PORCH
06 VENT HOOD, BY OWNER
07 LINE OF COUNTER BELOW
08 LINE OF SOFFIT
09 RIDGELINE ABOVE
10 DOWNSPOUTS
11 CONTINUOUS BOX GUTTER
12 CONTINUOUS SOFFIT VENT, SEE VENT SCHEDULE ON A8-10
13 RETURN AIR, SEE MECHANICAL M3-01
14 SUPPLY AIR, SEE MECHANICAL M3-01

SEE LIGHTING INFORMATION AND SUGGESTED LIGHTING SCHEDULE ON SHEET E2-01;
SEE OULET LOCATIONS ON SHEET E3-01

SYMBOL LEGEND

- (S) SMOKE DETECTOR
- (M) CARBON-MONOXIDE DETECTOR
- EXHAUST FAN
- CEILING MTD. LIGHT FIXTURE
- WALL MTD. LIGHT FIXTURE
- (T) THERMOSTAT
- B-1 FINISH
- CEILING FAN & LIGHT FIXTURE
- $ SWITCH, 48" A.F.F. U.N.O
- $3 3-WAY SWITCH
- SUPPLY GRILLE
- RETURN GRILLE

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El Dorado County Permit-Ready Accessory Dwelling Unit

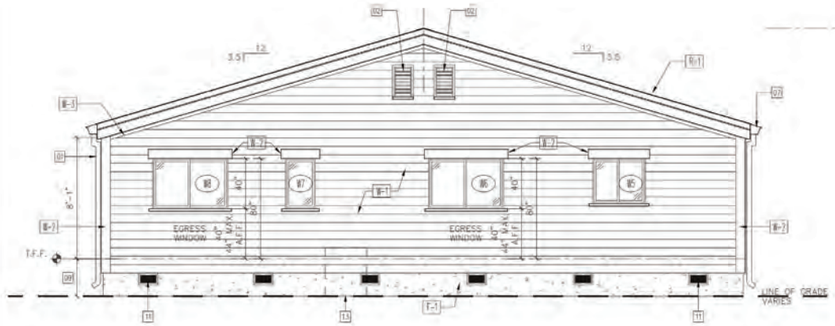
TITLE
RCP/LIGHTING; APPLIANCE & PLUMBING SCHEDULE

PROJECT
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SCALE
1/4"=1'-0"
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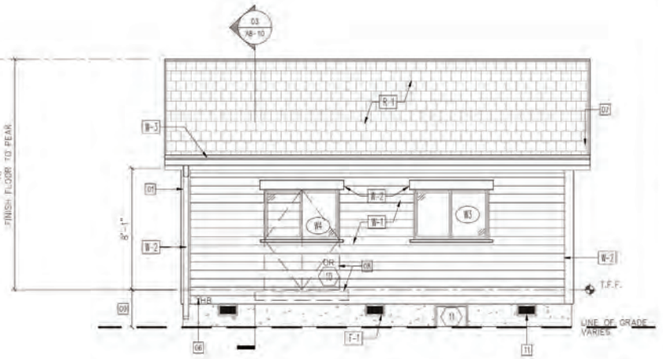
SHEET NUMBER
A3-10

EXTERIOR FINISH SCHEDULE - CABIN RUSTIC

SURFACE	TAG	DESCRIPTION	MANUFACTURER	STYLE / COLOR / ITEM #	NOTES
ROOF	R-1	Asphalt Shingle	GAF or similar	TBD by owner	GAF Timberline HD Reflector Series or similar; Meet cool roof requirements, rated by the cool roof rating council: UL 790 Class A fire-resistance rating; Steep slope roof in climate zone 12: Minimum aged solar reflectance of 0.20 and a minimum thermal emittance of 0.75 or a minimum SRI of 0.75
EXT. WALL	W-1	Fiber Cement Siding	James Hardie Products or Similar	TBD by owner	Hardie Plank Lap Siding Smooth, Primed for Paint, 8.25" Width, 7" Exposure; Non-Combustible Rating (CalFire Listing No 8160-2021-0005)
	W-2	Fiber Cement Trim - Wide			Hardie Trim Boards 5/4 Smooth, Primed for Paint, 7.25" Width; Non-combustible
	W-3	Fiber Cement Trim - Thin			Hardie Trim Boards 5/4 Smooth, Primed for Paint, 3.25" Width; Non-combustible
PORCH CEILING AND UNDER EAVE	C-1	Fiber Cement Panel - Smooth - Thin		TBD by owner	Hardie Soffit Panels Non-Vented Smooth, Thickness 0.25", Primed for Paint, 144" Length, 16" Width; Non-Combustible Rating (CalFire Listing No 8160-2021-0007)
EXPOSED CONCRETE FOUNDATION	F-1	TBD	TBD	TBD by owner	

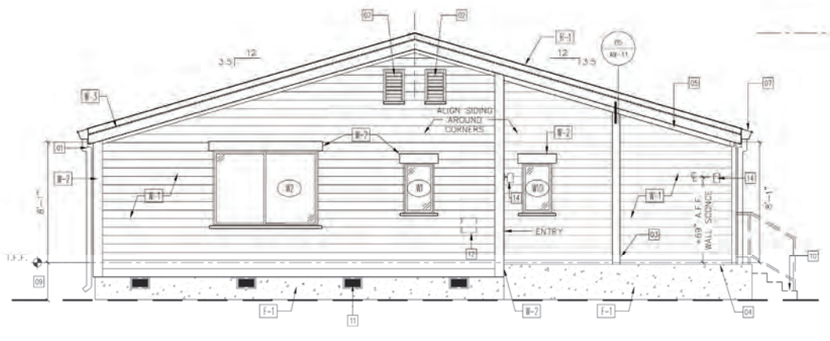


SIDE D
EXTERIOR ELEVATION 04
SCALE: 1/4" = 1'-0"

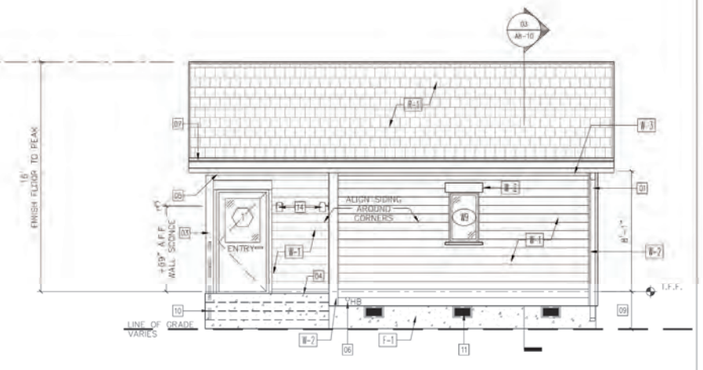


SIDE C
EXTERIOR ELEVATION 03
SCALE: 1/4" = 1'-0"

NOT FOR CONSTRUCTION



SIDE B
EXTERIOR ELEVATION 02
SCALE: 1/4" = 1'-0"



SIDE A
EXTERIOR ELEVATION 01
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. SEE A2-10 FOR MINIMUM DOWNSPOUT AND GUTTER SIZES
2. SEE E2-01 FOR LIGHTING SCHEDULE AND FIXTURE REQ'S
3. SEE A8-10 FOR DOOR/WINDOW SCHEDULE
4. SEE A8-10 FOR VENT SCHEDULE
5. SEE A9-10 AND A9-11 FOR ROOF AND FOUNDATION DETAILS IN CLIMATE ZONE 10
6. SEE A9-12 AND A9-13 FOR ROOF AND FOUNDATION DETAILS IN CLIMATE ZONE 12

KEYNOTES:

01 DOWNSPOUT
02 ATTIC VENT: SEE VENT SCHEDULE 02/A8-10
03 4x6 WOOD POST, SEE STRUCTURAL
04 CONCRETE PORCH, FINISH TBD BY OWNER
05 EXPOSED BEAM
06 EXTERIOR HOSE BIB. SEE PLUMBING SHEETS
07 CONTINUOUS BOX GUTTER
08 OPPORTUNITY FOR FRENCH DOOR. WINDOW B CAN BE REPLACED WITH DOOR 10. SEE DOOR WINDOW SCHEDULE ON SHEET A7-11; 36" DEEP FLAT LEVEL LANDING OUTSIDE DOOR
09 24"-30" FROM FINISH FLOOR TO GRADE, PER FIELD CONDITIONS
10 RISERS BY OWNER AS NEEDED TO REACH PORCH LEVEL.
RISER: 4" MIN. – 7 3/4" MAX.
LANDING: 36" CLR. MIN. IN DIRECTION OF TRAVEL
11 FOUNDATION VENT, SEE VENT SCHEDULE 02/A8-10
12 WALL-MOUNTED EV CHARGING STATION, SEE E3-01; LOCATION MAY CHANGE BY SITE AND PARKING SPACE
13 CONDENSER UNIT, LOCATION BY SITE AND CONFIRMED BY BUILDING OFFICIAL. SEE M3-01
14 EXTERIOR FIXTURES MUST BE FULL CUT-OFF, SEE E2-01 & LIGHTING SCHEDULE

SYMBOL LEGEND

- KEYNOTE
- SMOKE DETECTOR
- CARBON-MONOXIDE DETECTOR
- EXHAUST FAN
- CEILING MTD. LIGHT FIXTURE
- WALL MTD. LIGHT FIXTURE
- WINDOW
- DOOR
- HB HOSE BIB
- B-1 FINISH
- LEVEL EL ELEVATION/HEIGHT

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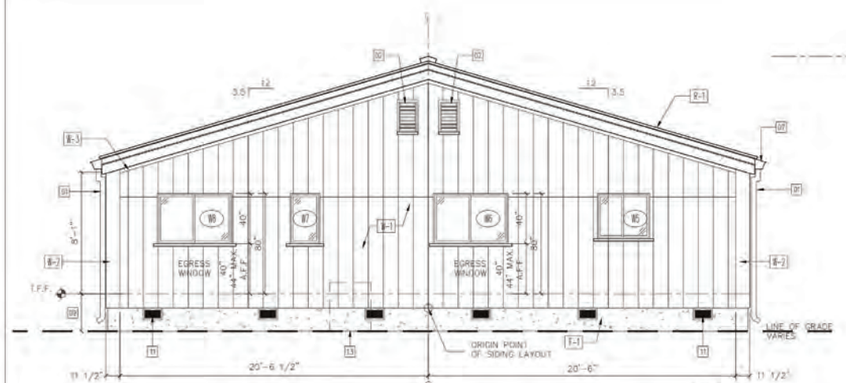
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EXTERIOR ELEVATIONS - CABIN RUSTIC

PROJECT
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1/4"=1'-0"
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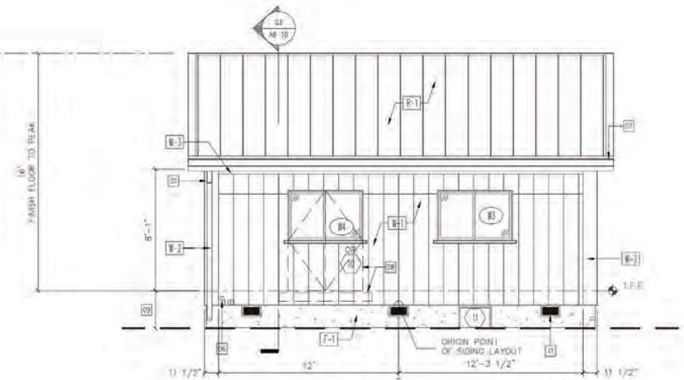
SHEET NUMBER
A4-10

EXTERIOR FINISH SCHEDULE - MOUNTAIN MODERN

SURFACE	TAG	DESCRIPTION	MANUFACTURER	STYLE/COLOR/ITEM #	NOTES
ROOF	R-1	Standing Seam	Western States Metal Roofing or similar	TBD by owner	"Western Lock Standing Seam Snap Lock Standing Seam Metal Roof Panel, Concealed Fasteners, 1.75 inch Rib height, 18" Panel, PVDF Resin Based " or similar; UL 790 Class A fire resistance rating steep slope roof in climate zone 12; Minimum aged solar reflectance of 0.20 and a minimum thermal emittance of 0.75 or a minimum SRI of 0.25
EXT. WALL	W-1	Fiber Cement Vertical Siding	James Hardie Products or similar	TBD by owner	Hardie Panel Vertical Siding Sierra 8, Primed for Paint, 48" Width, 96" Length; Non-Combustible Rating (CalFire Listing No 8160-2026:0502)
	W-2	Fiber Cement Trim - Wide		TBD by owner	Hardie Trim Boards 5/4 Smooth, Primed for Paint, 11.25" Width; Non-combustible
	W-3	Fiber Cement Trim - Thin		TBD by owner	Hardie Trim Boards 5/4 Smooth, Primed for Paint, 3.25" Width; Non-combustible
PORCH CEILING AND UNDER EAVE	C-1	Fiber Cement Panel - Smooth - Thin		TBD by owner	Hardie Soffit Panels Non-Vented Smooth, Thickness 0.25", Primed for Paint, 144" Length, 16" Width; Non-Combustible Rating (CalFire Listing No 8160-2026:0007)
EXPOSED CONCRETE FOUNDATION	F-1	TBD	TBD	TBD by owner	

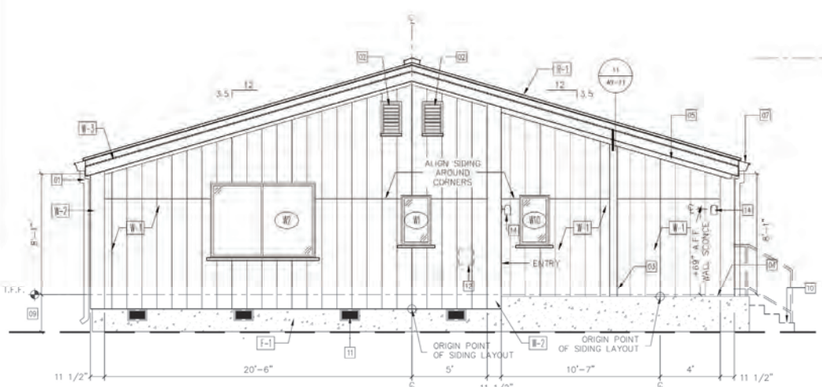


SIDE D
EXTERIOR ELEVATION 04
SCALE: 1/4" = 1'-0"

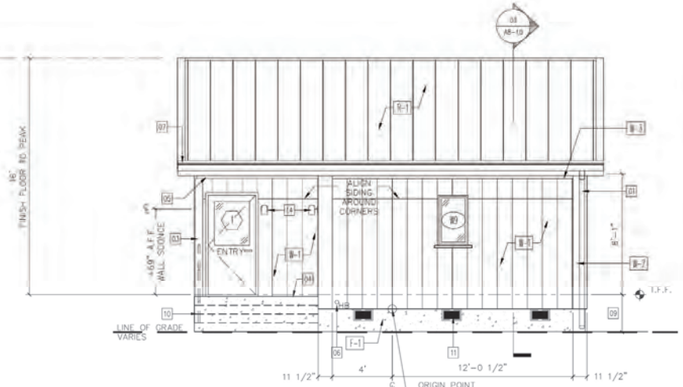


SIDE C
EXTERIOR ELEVATION 03
SCALE: 1/4" = 1'-0"

NOT FOR CONSTRUCTION



SIDE B
EXTERIOR ELEVATION 02
SCALE: 1/4" = 1'-0"



SIDE A
EXTERIOR ELEVATION 01
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. SEE A2-10 FOR MINIMUM DOWNSPOUT AND GUTTER SIZES
2. SEE E2-01 FOR LIGHTING SCHEDULE AND FIXTURE REQ'S
3. SEE A8-10 FOR DOOR/WINDOW SCHEDULE
4. SEE A8-10 FOR VENT SCHEDULE
5. SEE A9-10 AND A9-11 FOR ROOF AND FOUNDATION DETAILS IN CLIMATE ZONE 16
6. SEE A9-12 AND A9-13 FOR ROOF AND FOUNDATION DETAILS IN CLIMATE ZONE 12

KEYNOTES:

01 DOWNSPOUT
02 ATTIC VENT, SEE VENT SCHEDULE 02/A8-10
03 4x6 WOOD POST, SEE STRUCTURAL
04 CONCRETE PORCH, FINISH TBD BY OWNER
05 EXPOSED BEAM
06 EXTERIOR HOSE BIB, SEE PLUMBING SHEETS
07 CONTINUOUS BOX GUTTER
08 OPPORTUNITY FOR FRENCH DOOR; WINDOW 8 CAN BE REPLACED WITH DOOR 10. SEE DOOR WINDOW SCHEDULE ON SHEET A1-11. 36" DEEP FLAT LEVEL LANDING OUTSIDE DOOR
09 24"- 30" FROM FINISH FLOOR TO GRADE, PER FIELD CONDITIONS.
10 RISERS BY OWNER AS NEEDED TO REACH PORCH LEVEL.
RISER: 4" MIN. – 7 3/4" MAX.
LANDING: 36" CLR. MIN. IN DIRECTION OF TRAVEL
11 FOUNDATION VENT, SEE VENT SCHEDULE 02/A1-11 & 02/A8-10
12 WALL-MOUNTED EV CHARGING STATION, SEE E3-01. LOCATION MAY CHANGE BY SITE AND PARKING SPACE
13 CONDENSER UNIT, LOCATION BY SITE AND CONFIRMED BY BUILDING OFFICIAL, SEE M3-01
14 EXTERIOR FIXTURES MUST BE FULL CUT-OFF, SEE E2-01 & LIGHTING SCHEDULE

SYMBOL LEGEND

- 1 KEYNOTE
- S SMOKE DETECTOR
- CM CARBON MONOXIDE DETECTOR
- EF EXHAUST FAN
- CEILING MTD. LIGHT FIXTURE
- WALL MTD. LIGHT FIXTURE
- 4 WINDOW
- 3 DOOR
- HB HOSE BIB
- B-1 FINISH
- LEVEL EL ELEVATION/HEIGHT

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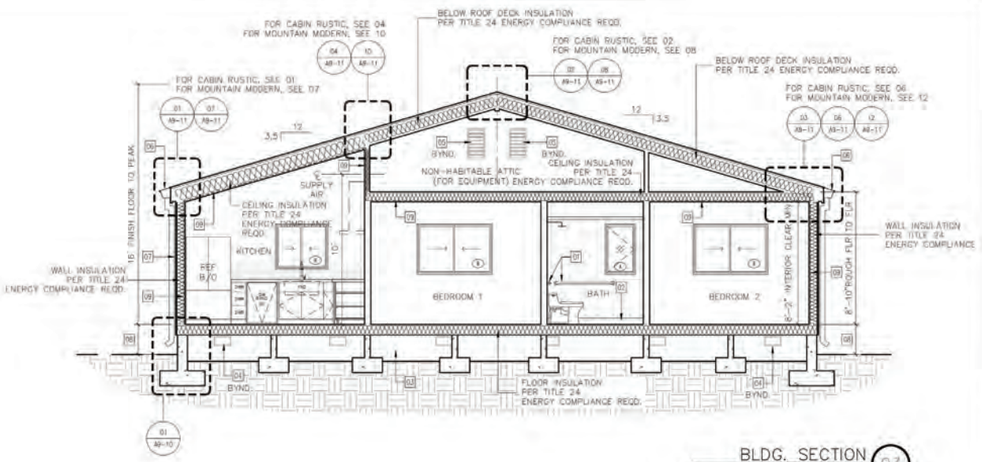
PERMIT SET

El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE
EXTERIOR ELEVATIONS - MOUNTAIN MODERN

PROJECT
- -
SCALE
1/4"=1'-0"
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SHEET NUMBER
A4-11



BLDG. SECTION 03
SCALE: 1/4" = 1'-0"

WINDOW SCHEDULE

	WINDOW LOCATION	TYPE	SILL HT.	HEAD HT.	W	H	MATERIAL	FINISH	FUNCTION	HEAD	JAMB	SILL	REMARKS
W1	Mudroom	A	40"	80"	24"	40"	VIN	PT	CAS	09/A9-10 TYP.	09/A9-10 TYP.	07/A9-10 TYP.	
W2	Living Room	B	30"	90"	84"	60"	VIN	PT	SL	09/A9-10 TYP.	09/A9-10 TYP.	07/A9-10 TYP.	
W3	Living Room	B	40"	80"	60"	40"	VIN	PT	SL	09/A9-10 TYP.	09/A9-10 TYP.	07/A9-10 TYP.	
W4	Kitchen	B	40"	80"	60"	40"	VIN	PT	SL	09/A9-10 TYP.	09/A9-10 TYP.	07/A9-10 TYP.	
W5	Kitchen	B	40"	80"	42"	36"	VIN	PT	SL	09/A9-10 TYP.	09/A9-10 TYP.	07/A9-10 TYP.	
W6	Bedroom 1	B	40"	80"	60"	40"	VIN	PT	SL	09/A9-10 TYP.	09/A9-10 TYP.	07/A9-10 TYP.	Egress window
W7	Bathroom	A	40"	80"	24"	40"	VIN	PT	CAS	09/A9-10 TYP.	09/A9-10 TYP.	07/A9-10 TYP.	Ribbed or translucent glass for privacy
W8	Bedroom 2	B	40"	80"	60"	40"	VIN	PT	SL	09/A9-10 TYP.	09/A9-10 TYP.	07/A9-10 TYP.	Egress window
W9	Bedroom 3	A	40"	80"	24"	40"	VIN	PT	CAS	09/A9-10 TYP.	09/A9-10 TYP.	07/A9-10 TYP.	
W10	Hallway	A	40"	80"	24"	40"	VIN	PT	CAS	09/A9-10 TYP.	09/A9-10 TYP.	07/A9-10 TYP.	

KEY TO ABBREVIATIONS

FIX: Fixed — PT: Paint — WD: Wood (Solid)
FR: French — VIN: Vinil — SC: Solid Core
RH/LH: Right/Left Hand Swing — SL: Slider
CAS(ement) — 1/2: Single/Double Glazed — N/A: Not Applicable

Notes:
1. For Climate Zone 12: Dual paned Non-Metal Low-E NFRC labeled glazing at all glass doors / windows to have a U-factor of 0.30 and an SHGC value of 0.24 or better (lower), refer to Title 24 Energy Compliance Documents, see T2-0
2. For Climate Zone 16: Dual paned Non-Metal Low-E NFRC labeled glazing at all glass doors / windows to have a U-factor of 0.30 and an SHGC value of 0.65 or better (lower), refer to Title 24 Energy Compliance Documents, see T3-0
3. All (N) glazing to be dual-glazed, UV blocking
4. Tempered glass where required by code.
5. 1" undercut on door

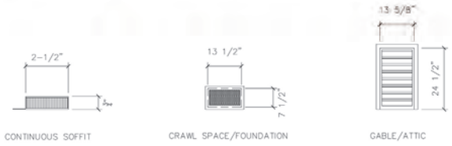
DOOR SCHEDULE

	DOOR LOCATION	IN/TEXT	DOOR TYPE	DOOR TH	DOOR W	DOOR H	DOOR MATERIAL	DOOR FINISH	DOOR FUNCTION	FRAME MATERIAL	FRAME FINISH	FRAME HEAD DTL	FRAME JAMB DTL	FRAME THRESHOLD DTL	REMARKS
1	Entry	EXT	A	1-3/4"	36"	80"	WD	PT	LH	WD	PT	06/A9-10 TYP.	05/A9-11 TYP.	04/A9-12 TYP.	
2	Mudroom	INT	B	1-3/8"	30"	80"	SC	PT	LH	WD	PT	-	-	-	
3	Mudroom Closet	INT	B	1-3/8"	30"	80"	SC	PT	RH	WD	PT	-	-	-	
4	Bedroom 1	INT	B	1-3/8"	34"	80"	SC	PT	RH	WD	PT	-	-	-	
5	Closet 1	INT	D	1-3/8"	72"	80"	SC	PT	SL	WD	PT	-	-	-	Pair, 36" wide each
6	Bathroom	INT	B	1-3/8"	34"	80"	SC	PT	RH	WD	PT	-	-	-	
7	Bedroom 2	INT	B	1-3/8"	34"	80"	SC	PT	RH	WD	PT	-	-	-	
8	Walk-In Closet	INT	B	1-3/8"	34"	80"	SC	PT	RH	WD	PT	-	-	-	
9	Linen Closet	INT	C	1-3/8"	32"	80"	SC	P1	FR	WD	PT	-	-	-	Pair, 16" wide each
10	Kitchen	EXT	F	1-3/4"	60"	80"	SC	PT	FR	WD	PT	-	-	-	Alternate for window opening Pair, 30" wide each
11	Crawl Space Access	EXT	G	-	24" MIN	18" MIN	-	-	-	-	-	03/A9-10 TYP.	-	03/A9-12 TYP.	
12	Attic Access	INT	-	-	36"	36"	-	-	-	-	-	-	-	-	

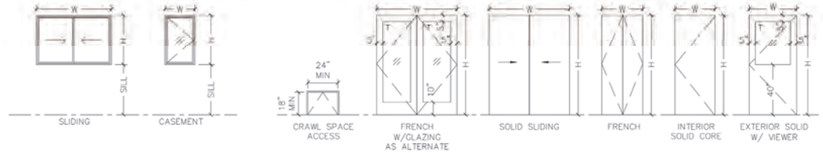
NOT FOR CONSTRUCTION

VENT SCHEDULE (WUI-COMPLIANT)

LOCATION(S)	TYPE	MANUFACTURER	MODEL #	MODEL SIZE	NFVA	QTY.	DETAIL	NOTES
Attic/Gable	A	Vulcan Vents	VG142AFC	13-3/8" x 24-1/2"	115 sq. in.	4	06/A9-12	Fiber Cement Flange Type
Crawl Space/Foundation	B		VFS614FF	13-1/2" x 7-1/2"	62 sq. in.	16	03/A9-10	Front Flange Type
Continuous Soffit	C		VSC351205L	3 1/8" X 120"	170 sq. in.	4	01/A9-11	Single Leg Flange Type Strip Vent



VENT TYPE AND SCHEDULE 02
SCALE: N/A



DOOR AND WINDOW TYPES AND SCHEDULES 01
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. WINDOW B AT KITCHEN CAN BE REPLACED WITH DOOR 10. SEE 03 ON ELEVATION SHEETS.
2. SEE A0-00 FOR SUMMARY OF TITLE 24 ENERGY COMPLIANCE REQUIREMENTS

KEYNOTES:

01 ACCESSIBLE SHOWER GRAB BARS, AS NEEDED. SEE DETAIL 01 ON SHEET A9-12 FOR BLOCKING
02 SHOWER CURB
03 CRAWL SPACE
04 CRAWL SPACE VENT, SEE VENT SCHEDULE
05 ATTIC VENTILATION, SEE VENT SCHEDULE
06 CONTINUOUS BOX GUTTER ALONG BOTH SIDES
07 HORIZONTAL OR VERTICAL SIDING DEPENDANT ON STYLE CHOSEN, SEE FINISH SCHEDULE
08 24"-30" FROM FINISH FLOOR TO GRADE, PER FIELD CONDITIONS
09 CLASS II VAPOR BARRIER ON INTERIOR SIDE OF FRAME WALL OR CEILING

CLASS II VAPOR BARRIER:

KRAFT-FACED FIBERGLASS BATTS, VAPOR RETARDER PAINT OR OTHER APPROVED MATERIALS APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR A PERM RATING GREATER THAN 0.1 AND LESS THAN OR EQUAL TO 1.0 (R702).

EGRESS WINDOW:

EMERGENCY EGRESS WINDOWS OR DOORS SHALL HAVE A MIN. NET CLEAR OPENING AREA OF 5.7 S.F. WITH A MIN. NET CLEAR HEIGHT OF 24" AND A MIN. NET CLEAR WIDTH OF 20". THE SILL HEIGHT SHALL NOT BE MORE THAT 44" ABOVE THE INTERIOR FLOOR.

SYMBOL LEGEND

- 1 KEYNOTE
- S SMOKE DETECTOR
- CO CARBON MONOXIDE DETECTOR
- EF EXHAUST FAN
- CEILING MTD. LIGHT FIXTURE
- WALL MTD. LIGHT FIXTURE
- 4 WINDOW
- 1 DOOR
- HB HOSE BIB
- B-1 FINISH
- LEVEL EL ELEVATION/HEIGHT
- INSULATION
- INSULATION+RIGID INSULATION
- VAPOR BARRIER

Waiver of Liability:
The County of El Dorado requires participating end user property owner(s) to release, hold harmless, and indemnify Consultant, subcontractors, and the County and its' employees from any and all claims, liabilities or damages arising out of the use of these ADU construction documents.

RACHEL W ALLEN
#C39045
REN. 4/30/25
LICENSED ARCHITECT
STATE OF CALIFORNIA

PERMIT SET

El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE:
DOOR, WINDOW, & VENT SCHEDULES & BLDG. SECTION

PROJECT

SCALE
1/4"=1'-0"
DRAWN BY
DATE
11/10/2023

SHEET NUMBER
A8-10

GENERAL NOTES

A. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CALIFORNIA CODE OF REGULATIONS, CALIFORNIA ELECTRICAL CODE 2022 EDITION AND ALL APPLICABLE LOCAL CODES AND REGULATIONS.

B. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED. FOLLOW DRAWINGS IN LAYING OUT WORK AND CHECK DRAWINGS OF OTHER TRADES RELATING TO WORK TO VERIFY SPACES IN WHICH WORK WILL BE INSTALLED. MAINTAIN HEADROOM AND MINIMUM CODE REQUIRED WORKING CLEARANCES AT ALL TIMES.

C. DURING BID, THE BUILDER MUST EXAMINE THE COMPLETE SET OF DRAWINGS AND CONTRACT DOCUMENTS FOR ALL TRADES. COORDINATE AND VERIFY DIMENSIONS SPACE REQUIREMENTS AND POINTS OF CONNECTION TO ALL EQUIPMENT. MAKE ANY ADJUSTMENTS NECESSARY TO AVOID CONFLICTS WITH THE STRUCTURAL AND THE WORK OF OTHER TRADES.

D. THE BUILDER IS ADVISED AND REMINDED THAT THEIR BEST EFFORTS AND THAT OF THE BUILDER'S ORGANIZATION AND PERSONNEL ARE TO BE PROVIDED AS PART OF THE COORDINATED EFFORT INTENDED TO PROVIDE THE PROJECT OWNER AND THE ULTIMATE USERS AND OCCUPANTS WITH FINISHED PROJECT WHICH WILL SERVE ITS INTENDED PURPOSE.

E. BUILDER SHALL VERIFY THE EXACT LOCATION OF ALL ELECTRICAL, MECHANICAL, PLUMBING AND ALL OTHER EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS PRIOR TO ANY WORK.

F. DEDICATED ELECTRICAL SPACE NEC 110.26(F): THE SPACE EQUAL TO THE WIDTH AND DEPTH OF THE EQUIPMENT AND EXTENDING FROM THE FLOOR TO A HEIGHT (6 FT) ABOVE THE EQUIPMENT OR TO THE STRUCTURAL CEILING, WHICHEVER IS LOWER, SHALL BE DEDICATED TO THE ELECTRICAL INSTALLATION. NO PIPING, DUCTS, LEAK PROTECTION APPARATUS, OR OTHER EQUIPMENT FOREIGN TO THE ELECTRICAL INSTALLATION SHALL BE LOCATED IN THIS ZONE.

G. SEE MECHANICAL AND PLUMBING DRAWINGS AND SPECIFICATION FOR ADDITIONAL CONNECTION REQUIREMENTS TO CONTROL PANELS AND TRANSFORMERS, 120V FOR CONTROL SYSTEM, SWITCHES, TIME CLOCK, VALVES, STATS, RELAYS, DUCT SMOKE DETECTOR LOCATION, VAV BOXES, SMOKE FIRE DAMPERS, AND ETC. BUILDER SHALL VERIFY FINAL CONTROL WIRING REQUIREMENTS WITH DIVISION 22 & 23 PRIOR TO ANY WORK AND PROVIDE ALL NECESSARY WIRING, DEVICES AND CONNECTIONS AS REQUIRED.

H. BUILDER SHALL EXTEND WIRING FROM ALL JUNCTION BOXES, SWITCHES, ETC. AND MAKE FINAL CONNECTIONS AS REQUIRED TO ALL OTHER EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS PRIOR TO ANY WORK.

I. THE BUILDER SHALL VERIFY THE ACTUAL MOTOR AND APPLIANCE RATING AND LOADS IN ORDER TO PROVIDE CORRECT SIZED MOTOR RELATED ELECTRICAL COMPONENTS. THE BUILDER SHALL SUBMIT TO ARCHITECT WITH REVISED DATA BEFORE INSTALLATION. ALL CHANGES SHALL BE SHOWN ON RECORD DRAWINGS.

J. ALL PANELS, SWITCHES, ETC. SHALL HAVE SUFFICIENT GUTTER SPACE AND LUGS IN COMPLIANCE WITH U.L. REQUIREMENTS TO ACCOMMODATE CONDUCTORS SHOWN.

K. WHERE WIRE SIZES ARE INDICATED ON PLANS, FOR INDIVIDUAL CIRCUITS, THE WIRE SIZE INDICATED SHALL APPLY TO THE COMPLETE CIRCUIT, UNLESS OTHERWISE NOTED.

L. LOCATION OF LOCAL WALL SWITCHES ARE SUBJECT TO MODIFICATIONS. AT OR NEAR DOORS, INSTALL SWITCHES ON SIDE OPPOSITE TO DOOR HINGES. VERIFY FINAL HINGE LOCATION IN FIELD PRIOR TO ANY WORK.

M. BUILDER SHALL COORDINATE THE LOCATION OF ALL WALL OUTLET BOXES FOR SWITCHES, STROBES/HORNS, STROBES, FIRE ALARM PULL STATIONS, RECEPTACLES, ETC. WITH TACK BOARDS, CABINETS, FURNITURE, EQUIPMENT ETC. TO AVOID CONFLICT.

N. WHERE ELECTRIC MOTORS OR EQUIPMENT ARE INSTALLED IN HUNG CEILING, PROVIDE DISCONNECT SWITCH IN HUNG CEILING WITHIN REACH FROM ACCESS POINT.

O. PROVIDE APPROVED EXPANSION FITTINGS WHERE RACEWAY CROSSES BUILDING EXPANSION JOINTS.

P. PROVIDE PULL WIRE IN EACH RACEWAY RUN OVER 10 FEET IN LENGTH, IN WHICH PERMANENT WIRING IS NOT INSTALLED.

Q. NOT MORE THAN THREE LIGHTING OR CONVENIENCE OUTLET CIRCUITS ARE PERMITTED IN ONE CONDUIT, UNLESS OTHERWISE INDICATED PROVIDE SEPARATE CONDUIT FOR EACH HOME RUN INDICATED ON THE DRAWING.

R. ALL EXTERIOR ELECTRICAL DEVICES AND EQUIPMENT EXPOSED TO OUTSIDE ENVIRONMENT SHALL BE WEATHERPROOF TYPE, NEMA 3R.

S. LIGHTING, POWER, TELEPHONE AND COMMUNICATIONS OUTLETS SHALL NOT BE PLACED BACK TO BACK. OUTLETS SHALL BE HORIZONTALLY SEPARATED MIN. OF 24" FOR RATED WALL AND MIN. OF 18" FOR NON-RATED WALL.

T. PROVIDE PULL BOXES WHEREVER NECESSARY TO FACILITATE PULLING OF CONDUCTORS. COORDINATE LOCATIONS OF BOXES WITH OTHER TRADES TO AVOID CONFLICT. PULL BOXES SHALL BE ACCESSIBLE. THE SIZE OF PULLBOX SHALL COMPLY WITH CEC REQUIREMENTS.

U. OUTLET BOXES FOR FIXTURES RECESSED IN HUNG CEILING SHALL BE ACCESSIBLE THROUGH OPENING OPERATED BY REMOVAL OF FIXTURES.

V. WHERE MORE THAN ONE LIGHT SWITCH OCCURS AT SAME LOCATION, SWITCHES SHALL BE MOUNTED IN A MULTIPLE GANG BOX UNDER A SINGLE COVER PLATE. PLATES WITH MORE THAN (3) LIGHT SWITCHES SHALL BE LABELED TO INDICATE THE LIGHT FIXTURES CONTROLLED. SWITCH(ES) CONTROLLING LIGHTS ON EMERGENCY CIRCUIT SHALL BE IN A SEPARATE BOX UNDER THE SAME COVER PLATE AS THE OTHER SWITCHES.

W. PROVIDE GREEN GROUNDING CONDUCTOR IN EACH RACEWAY INCLUDING CONDUITS, PLUG STRIPS, ETC. SIZE OF GROUNDING CONDUCTOR SHALL BE IN ACCORDANCE WITH CALIFORNIA ELECTRIC CODE ARTICLE 250.122.

X. PROVIDE #10 CONDUCTORS FOR ALL 20 AMPS CIRCUITS LONGER THAN 100' AND #8 CONDUCTORS FOR CIRCUITS LONGER THAN 225'. CONTRACTOR SHALL ADJUST THE SIZE OF CONDUITS ACCORDINGLY.

Y. FEEDER LENGTH SHOWN ON DRAWINGS ARE FOR VOLTAGE DROP CALCULATION AND NOT TO BE USED FOR COST ESTIMATING.

Z. WHERE CONDITIONS ARE SHOWN AS EXISTING, THEY ARE BASED ON THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE DRAWINGS/DOCUMENTS. NO WARRANTY IS IMPLIED AS TO THE ACCURACY. CONTRACTOR IS TO FIELD VERIFY ALL CONDITIONS. SHOULD FIELD CONDITIONS DIFFER FROM THOSE SHOWN, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BID. THE ENGINEER WILL THEN PROVIDE ADDITIONAL INFORMATION NEEDED TO ACCOMPLISH THE DESIRED RESULT.

AA. CONTRACTOR SHALL PERMANENTLY LABEL CIRCUIT AND PANEL NAME ON ALL OUTLETS.

AB. FUSES SHALL BE PROVIDED WITH REJECTION TYPE FUSE HOLDERS.

AC. CONTRACTOR SHALL LABEL ALL SWITCHED RECEPTACLES PER TITLE 24 REQUIREMENTS. FOR EACH FULL SWITCHED RECEPTACLE PROVIDE TWO LABELS, ONE ON EACH CORNER (TOP RIGHT AND BOTTOM RIGHT). FOR EACH HALF SWITCHED RECEPTACLE PROVIDE ONE LABEL ON TOP RIGHT CORNER. REFER TO LIGHTING CONTROL DIAGRAMS FOR VISUAL REPRESENTATION.

AD. ALL ELECTRICAL EQUIPMENT SHALL BE LISTED BY U.L. OR CITY OF LOS ANGELES APPROVED THIRD PARTY TESTING FACILITY.

AG. MC CABLE IS NOT PERMITTED FOR THIS PROJECT. ALL CIRCUITS CONNECTED VIA HARD CONDUIT AND CONDUCTORS.

ELECTRICAL LEGEND

GENERAL

- JUNCTION BOX CEILING MOUNTED
- JUNCTION BOX WALL MOUNTED +18"AFF, U.O.N.
- JUNCTION BOX FLUSH IN FLOOR
- ENCLOSED CIRCUIT BREAKER
- MOTION DETECTOR
- RELAY
- RECEPTACLE CONTROL RELAY
- ROOM CONTROLLER
- EMERGENCY RELAY
- TIME CLOCK
- PUSH BUTTON
- DOOR CONTACT
- CONTACTOR
- BUZZER
- START/STOP SWITCH
- MOTOR
- DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH
- MOTOR CONTROLLER OR STARTER
- COMBINATION CONTROLLER/DISCONNECT SWITCH

WIRES AND RACEWAYS

- CONCEALED CONDUIT IN WALL OR CEILING
- CONCEALED CONDUIT BELOW FINISHED FLOOR/GRADE
- CONDUIT OR RACEWAY TURNED UP
- CONDUIT OR RACEWAY TURNED DOWN
- CONDUIT STUB OUT, CAP-OFF
- CONDUIT CONTINUATION
- HOMERUN CONDUIT — LONG STROKES INDICATE NEUTRAL CONDUCTOR, SHORT STROKES INDICATE PHASE OR SWITCHED CONDUCTOR, LONG STROKES WITH DOT INDICATES GROUNDING CONDUCTOR. 3/4"CONDUIT MIN. (U.O.N.), #12 AWG CONDUCTOR MIN. (U.O.N.)
- (3)#12AWG, 3/4"C — 3 SETS OF ONE INCH CONDUIT, EACH WITH THREE NUMBER EIGHT WIRE AND ONE NUMBER EIGHT GROUND.

COMMUNICATIONS (+18" AFF, U.O.N.)

- TELEPHONE OUTLET WITH 1"CONDUIT UP TO ACCESSIBLE CEILING, U.O.N.
- DATA OUTLET WITH 1"CONDUIT UP TO ACCESSIBLE CEILING, U.O.N.
- COMBINATION TELEPHONE/DATA OUTLET WITH 1"CONDUIT UP TO ACCESSIBLE CEILING, U.O.N.
- FLOOR MOUNTED COMBO TELEPHONE/DATA OUTLET WITH 1"CONDUIT UP TO ACCESSIBLE CEILING, U.O.N.
- WIRELESS ACCESS POINT
- CR — CARD READER
- TV — TELEVISION OUTLET
- CAMERA (CCTV)
- SPEAKER
- TELEPHONE TERMINAL BACKBOARD

SWITCHES (+48" AFF, U.O.N.)

- $ — SINGLE POLE SWITCH
- $3 — THREE-WAY SWITCH
- $4 — FOUR-WAY SWITCH
- $P — SWITCH & PILOT LIGHT
- $K — KEY OPERATED SWITCH
- $D — DIMMER SWITCH
- $M — THERMAL OVERLOAD SWITCH
- $T — TIMER SWITCH
- $a — LOWER CASE LETTER INDICATES SWITCHING
- $LV — LOW VOLTAGE DIMMER SWITCH (SAME ABBREVIATIONS APPLY AS ABOVE)

PANELS AND RELATED ITEMS

- PANELBOARD - SURFACE
- PANELBOARD - RECESSED
- T — TRANSFORMER
- SWITCHBOARD OR DISTRIBUTION BOARD QUANTITY OF SECTIONS REQUIRED SHOWN

DEVICE MOUNTING HEIGHTS

REFER TO ELECTRICAL SPECIFICATIONS FOR MORE INFORMATION. DIMENSIONAL NUMBERS SHOWN ADJACENT TO SYMBOLS INDICATE THE CENTERLINE OF DEVICE MOUNTING HEIGHTS.

NOTE: NOT ALL SYMBOLS ARE USED ON THIS PROJECT.

RECEPTACLES (+18" AFF, U.N.O.)

- SIMPLEX RECEPTACLE
- DUPLEX RECEPTACLE
- HALF-SWITCHED DUPLEX RECEPTACLE
- CEILING MOUNTED DUPLEX RECEPTACLE
- DOUBLE DUPLEX RECEPTACLE
- HALF-SWITCHED DOUBLE DUPLEX RECEPTACLE
- SPECIAL PURPOSE OUTLET (TYPE AS NOTED)
- FLOOR MOUNTED DUPLEX RECEPTACLE
- FLOOR MOUNTED DOUBLE DUPLEX RECEPTACLE
- MULTIOUTLET ASSEMBLY
- POWER COMMUNICATIONS POLE WITH BARRIER
- FLOOR MOUNTED COMBINATION RECEPTACLE & TELE/DATA

NOTE:
ALL RECEPTACLES SHALL BE 20AMP, 120V, U.O.N.

FIRE ALARM SYSTEM

- FACP — FIRE ALARM CONTROL PANEL
- FAA — FIRE ALARM ANNUNCIATOR
- FAPS — FIRE ALARM POWER SUPPLY
- FATC — FIRE ALARM TERMINAL CABINET
- MANUAL FIRE ALARM PULL STATION
- FIRE ALARM HORN
- FIRE ALARM HORN AND STROBE
- FIRE ALARM STROBE
- BELL
- DH — DOOR HOLDER
- FS — FLOW SWITCH
- TS — TAMPER SWITCH
- H — HEAT DETECTOR
- S — SMOKE DETECTOR
- SC — SMOKE/CARBON DETECTOR
- S — SMOKE DUCT DETECTOR
- S$_{sc}$ — SELF CONTAINED 120 VOLT SMOKE DETECTOR
- SFD — SMOKE FIRE DAMPER
- CM — CONTROL MODULE
- MM — MONITOR MODULE
- PIV — POST INDICATOR VALVE
- B$_T$ — BEAM DETECTOR TRANSMITTER
- B$_R$ — BEAM DETECTOR RECEIVER

LIGHTING FIXTURES

- DOWNLIGHT/PENDANT LIGHT FIXTURE
- LINEAR WALL MOUNTED LIGHT FIXTURE
- WALL SCONCE
- 2'x4' LIGHT FIXTURE
- STRIP LIGHT FIXTURE
- POLE AND POLE MOUNTED LIGHT FIXTURES NUMBER OF HEADS AS SHOWN
- BOLLARD/INGRADE LIGHT
- TRACK LIGHT
- FLOOD LIGHT
- WALL WASHER, ARROW INDICATES AIM
- EXIT SIGN, SHADING INDICATES FACE, ARROWS AS INDICATED
- BATTERY PACK, NUMBER OF HEADS AS SHOWN
- EMERGENCY 2'x4' LIGHT FIXTURE
- EMERGENCY DOWNLIGHT/PENDANT LIGHT FIXTURE
- EMERGENCY STRIP LIGHT FIXTURE
- NL — NL = NIGHT LIGHT (CONNECT TO UNSWITCHED LEG OF CIRCUIT)
- WALL MOUNTED OCCUPANCY SENSOR +48"AFF,U.O.N. (SINGLE MANUAL ON/OFF DIMMER SWITCH)
- WALL MOUNTED OCCUPANCY SENSOR +48"AFF,U.O.N. (DOUBLE MANUAL ON/OFF DIMMER SWITCH)
- CEILING MOUNTED OCCUPANCY SENSOR
- CEILING MOUNTED DAYLIGHT SENSOR

ANNOTATION TAGS AND NOMENCLATURE

- # — SHEET NOTE SYMBOL
- # — REVISION DELTA
- # / ## — DETAIL CALLOUT TAG. # DESIGNATES DETAIL NUMBER, ## DESIGNATES SHEET ON WHICH DETAIL IS LOCATED
- ## / # — MECHANICAL EQUIPMENT CALLOUT TAG. ## DESIGNATES UNIT TYPE, # DESIGNATES UNIT NUMBER.

SINGLE LINE DIAGRAM

- CIRCUIT BREAKER
- BREAKER WITH DRAWOUT FEATURE
- CONTACT (NORMALLY OPEN)
- CONTACT (NORMALLY CLOSED)
- C — OPERATING COIL
- FUSE
- FUSED SWITCH
- SWITCH
- POWER TRANSFORMER
- CURRENT TRANSFORMER
- M — POWER UTILITY METER
- SM — POWER NON UTILITY SUB METER
- G — GENERATOR
- GROUND
- GF — GROUND FAULT SENSOR
- N — NEUTRAL BUS
- G — GROUND BUS
- AUTOMATIC TRANSFER SWITCH
- XXX — FEEDER TAG

ABBREVIATIONS

A,AMP	AMPERE(S)
AC	ALTERNATING CURRENT
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISHED GRADE
AL	ALUMINUM
ALT	ALTERNATE
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BC	BARE COPPER
BLDG	BUILDING
C	CONDUIT
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CLG	CEILING
CT	CURRENT TRANSFORMER
CTR	COUNTER
CU	COPPER
CW	COLD WATER
(D)	DEMO, EXISTING TO BE REMOVED
DEF	DUAL ELEMENT FUSE
DISC	DISCONNECT
DN	DOWN
DP	DOUBLE POLE
DT	DOUBLE THROW
DWG	DRAWING
(E)	EXISTING TO REMAIN
EC	ELECTRICAL CONTRACTOR
EA	EACH
EC	EMPTY CONDUIT
EIA	ELECTRONIC INDUSTRIES ASSOCIATION
ELEC	ELECTRICAL OR ELECTRIC
ELEV	ELEVATOR
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EOL	END OF LINE RESISTOR
EWC	ELECTRICAL WATER COOLER
F	FUSE
FAA	FIRE ALARM REMOTE ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FC	FOOT CANDLE
FLR	FLOOR
FT	FOOT OR FEET
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTER
GND, G	GROUND
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
HZ	FREQUENCY CYCLES PER SECOND
IC	INTERCOM
IG	ISOLATED GROUND CONDUCTOR
IMC	INTERMEDIATE METALLIC CONDUIT
IN	INCH
J-BOX	JUNCTION BOX
K	KIRK KEY INTERLOCKED
KCM	THOUSAND CIRCULAR MIL(S)
KV	KILOVOLT
KVA	KILOVOLT AMPERE(S)
KVAR	KILOVAR(S)
KW	KILOWATT(S)
KWHR	KILOWATT HOUR
LCL	LONG CONTINUOUS LOAD
LTG	LIGHTING
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MH	MANHOLE
MIN	MINIMUM
MTD	MOUNTED
MTR	MOTOR
MTS	MANUAL TRANSFER SWITCH

ABBREVIATIONS CONTINUED

N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
NF	NON FUSED
NEC	NATIONAL ELECTRICAL CODE
NEGL.	NEGLIGIBLE
#	NUMBER
NTS	NOT TO SCALE
NL	NIGHT LIGHT
NIC	NOT IN CONTRACT
OC	ON CENTER
OL	OVERLOAD ELEMENT
PB	PULL BOX
PF	POWER FACTOR
PH, ø	PHASE
PNL	PANEL
PT	POTENTIAL TRANSFORMER
P	POLE
PVC	POLYVINYL CHLORIDE
(R)	EXISTING TO BE RELOCATED
RMS	ROOT MEAN SQUARE
SHT	SHEET
SMR	SURFACE METAL RACEWAY
SP	SINGLE POLE
SPEC	SPECIFICATIONS
ST	SINGLE THROW
SW	SWITCH
SWBD	SWITCHBOARD
TC	TIME CLOCK
TEL	TELEPHONE
TEMP	TEMPORARY
TIA	TELECOMMUNICATIONS INDUSTRY ASSOCIATION
TSTAT	THERMOSTAT
TTB	TELEPHONE TERMINAL BOARD
TTC	TELEPHONE TERMINAL CABINET
TV	TELEVISION
TYP	TYPICAL
UG	UNDERGROUND
UH	UNIT HEATER
UON	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTED POWER SUPPLY
V	VOLT(S)
VA	VOLT AMP(S)
VAR	REACTIVE VOLT AMPERES
VP	VAPOR PROOF
W/	WITH
W/O	WITHOUT
W	WATT(S)
WP	WEATHERPROOF
XFMR	TRANSFORMER
XP	EXPLOSION PROOF

ELECTRICAL SHEET INDEX

E0-01	GENERAL NOTES, LEGEND, AND SHEET INDEX
E0-02	ELECTRICAL SPECIFICATIONS
E2-01	LIGHTING PLAN
E3-01	POWER PLAN

NOT FOR CONSTRUCTION

DEFERRED APPROVAL FOR FIRE ALARM SYSTEM: (DESIGN-BUILD BY BUILDER)

FIRE ALARM DESIGN SHALL BE SUBMITTED BY BUILDER. OBTAIN APPROVAL FROM AUTHORITY HAVING JURISDICTION AND LOCAL FIRE DEPARTMENT PRIOR TO INSTALLATION.

DEFERRED EMERGENCY ILLUMINATION LEVEL NOTES:

1. THE MEANS OF EGRESS ILLUMINATION LEVEL SHALL NOT BE LESS THAN 1 FOOT-CANDLE AT THE WALKING SURFACE LEVEL.
2. EMERGENCY LIGHTS SHALL BE PROVIDED IN ALL MEANS OF EGRESS.
3. THE EMERGENCY LUMINAIRES SHALL PROVIDE AN INITIAL AVERAGE ILLUMINATION LEVEL OF AT LEAST 1 FOOT-CANDLE BUT AT ANY POINT IT SHALL NOT BE LESS THAN 0.1 FOOT-CANDLE ALONG THE PATH OF EGRESS AT FLOOR LEVEL.
4. AT THE END OF THE REQUIRED EMERGENCY SOURCE TIME DURATION, THE EMERGENCY LUMINAIRE SHALL BE PROVIDE AN AVERAGE ILLUMINATION LEVEL OF AT LEAST 0.6 FOOT-CANDLE BUT A ANY POINT IT SHALL NOT BE LESS THAN 0.06 FOOT-CANDLE ALONG THE PATH OF EGRESS AT FLOOR LEVEL.
5. THE EMERGENCY ILLUMINATION LEVEL SHALL HAVE A MINIMUM-TO-MAXIMUM EMERGENCY ILLUMINATION UNIFORMITY RATIO THAT DOES NOT EXCEED 40 TO 1.
6. CONTRACTOR SHALL SUBMIT EMERGENCY ILLUMINATION LEVEL STUDY AND DRAWINGS SIGNED AND STAMP BY A REGISTERED ELECTRICAL ENGINEER. OBTAIN APPROVAL BY AUTHORITY HAVING JURISDICTION PRIOR TO ROUGH-IN WORK.

EL DORADO COUNTY CALIFORNIA

Waiver of Liability:
The County of El Dorado requires participating end user-property owner(s) to release, hold harmless, and indemnify Consultant, subcontractors, and the County and its' employees from any and all claims, liabilities or damages arising out of the use of these ADU construction documents.

PERMIT SET

El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE
ELECTRICAL COVER SHEET

PROJECT 2102
SCALE N/A
DRAWN BY REX
DATE 11/10/2023
©2023 RADAR

SHEET NUMBER E0-01

ELECTRICAL SPECIFICATIONS

PART 1 – GENERAL

A. SCOPE

1. Furnish and install a completely wired and operational electrical system as shown on the drawings and specified herein, including but not limited to, these major items.
   a. Lighting fixtures as indicated and specified on the plans.
   b. Electrical panels, controls, service, disconnects, conduit wiring, etc., for all outlets and equipment.
   c. Telephone outlets and conduit as indicated.
   d. Conduit and outlets for alarm, computer, and security systems as indicated.
   e. Control wiring for electrical systems.
2. Provide permits and inspections as required.

B. CODES, REGULATIONS AND STANDARDS

1. The installation shall comply with applicable local and state codes and ordinances, with the regulations of the latest adopted edition of the following codes and with the requirements of the power and telephone companies furnishing services to this installation.
2. The following industry standards, specifications and codes are minimum requirements:
   a. NEMA–National Electrical Manufacturer's Association Standards
   b. NEC–National Electrical Code
   c. UL–Underwriter Laboratories Incorporated Standards
   d. ANSI–American National Standards Institute
   e. IEEE–Institute of Electrical and Electronics Engineers
   f. NESC–National Electrical Safety Code
   g. TITLE 24–California Energy Commission

C. INSPECTION OF SITE

1. Prior to submitting a bid for electrical work, the Electrical Contractor shall visit the site of the proposed construction and shall thoroughly acquaint himself with existing utilities and working conditions to be encountered, etc. Allowance will not be made for non–compliance with this condition after bidding.

D. GENERAL WORKMANSHIP

1. All work shall be executed and finished in a practical manner and shall present a neat and workmanlike appearance when completed.
2. All work must be acceptable to the Owner. Where a detailed method of installing the work is not specified or indicated, install work as directed by the Owner.

E. RELATED WORK BY OTHERS

1. Electrical drawings identify utility service requirements for power, telephone, and cable TV within and up to five feet outside the building. Utility electrical service transformer(s), where shown on the site plan, are for information only and indicate the preferred routing. The Electrical Contractor shall refer to utility service drawings for actual utility service requirements for this project. Utility systems shall be constructed in accordance with the approved utility service drawings. It shall be the Electrical Contractor's responsibility to contact and follow–up with all utility companies to obtain both preliminary and final design drawings for this project.
   a. The Electrical Contractor shall coordinate the installation of the electrical service entrance, meet all power company requirements and shall pay all utility company charges.
   b. The local telephone company will furnish and install all telephone wiring and equipment and will make all final telephone connections. The Electrical Contractor shall coordinate the installation of the telephone service entrance, meet all telephone requirements and shall pay all utility company charges.
   c. The Electrical Contractor shall coordinate the installation of the cable service entrance, meet all cable company requirements and shall pay all utility company charges.

F. COOPERATION WITH OTHER CONTRACTORS

1. Cooperate with the other trades so that the installation of the electrical outlets and equipment will be properly coordinated. Conduit, fixtures, and other equipment locations shall be checked with the other trades to avoid conflict with the piping, ductwork, steel, beams, or other obstructions.
2. Carefully check the locations of the outlet boxes and determine that they have not been disturbed during the installation of materials of other trades.
3. Coordinate the location of trenches and conduits for utility services and other disciplines with the General Contractor.

G. MECHANICAL AND ELECTRICAL COORDINATION

1. Any device which carries the full load current of the electrically driven machinery, as opposed to the control of instrumentation current in the holding coil, is a power circuit and is the responsibility of the Electrical Contractor. Control or instrumentation circuits connecting holding coils to the control system as specified by the Mechanical Engineer are the responsibility of the Mechanical Contractor.
2. The power circuit is defined as all devices necessary to operate, and as required by code to protect and service the unit, including branch circuit protective devices, disconnects, magnetic motor starters with running overload and single phasing protection, magnetic contactors, etc.
3. The control or instrumentation circuit is defined as all devices necessary to interface the electrical power circuit with the control system as specified by the Mechanical Engineer including conduit, boxes, conduit fittings, conductors, electric–pneumatic switches, pneumatic–electric switches, electrical and pneumatic relays, pneumatic tubing, etc.
4. The Electrical Contractor shall be responsible to provide 120V duplex receptacles within 25 feet of all roof mounted equipment, per CEC 210.63.

H. DRAWINGS

1. The drawings indicate the general arrangement and locations of the electrical work. Information presented on these drawings are as accurate as planning can determine, but field verification of all dimensions, locations, levels, etc., to suit field conditions is required. Review all architectural, structural and mechanical drawings and adjust all work to meet the requirements of conditions shown. The architectural drawings shall take precedence over all other drawings. Discrepancies between different plans, or between drawings and specifications, or regulations and codes governing the installation shall be brought to the attention of the engineer in writing before the date of bid opening. Where discrepancies or conflicts occur, the bid shall reflect the most stringent requirements. Electrical Contractor shall be responsible to field measure and confirm mounting heights and location of electrical equipment with respect to counters, etc.. Do not scale distances off the electrical drawings. Use actual building dimensions.
2. Upon completion of the work under these drawings and specifications, the Electrical Contractor shall provide the Owner with a complete set of marked–up electrical drawings showing the "as–built" condition of the work. Bond prints of the drawings required will be furnished by the Owner, for this purpose.
3. All operating instructions, parts lists and spare parts for material and equipment furnished and/or installed by the Electrical Contractor shall be turned over to the Owner (three copies).

I. SHOP DRAWINGS AND APPROVALS

1. Submittals shall consist of detailed shop drawings, specifications, block wiring diagrams, "catalog cuts" and data sheets containing physical and dimensional information, performance data, electrical characteristics, materials used in fabrication, and material finish. Clearly indicate by arrows or brackets precisely what is being submitted on and those optional accessories which are included and those which are not included.
2. Each submittal shall bear a stamp stating that the submittal has be thoroughly reviewed by the Contractor and is in full compliance with the requirements of Contract Documents. Cover letters shall list in full the items and data submitted. Failure to comply with these requirements shall constitute grounds for rejection of data.
3. The Contractor shall submit detailed drawings of all electrical equipment and generator rooms, yards, and utility areas. Minimum scale: 1/4"=1'–0".
4. As part of the equipment submittals, the manufacturer shall provide anchorage calculations for floor and wall mounted electrical equipment. Structural Calculations shall be prepared and signed by Registered Structural Engineer in California.
5. All resubmittals shall include a cover letter that lists the action taken and revisions made to every drawing and equipment data sheet in response to Submittal Review Comments. Failure to include this cover letter will constitute rejection of the resubmittal package.
6. Contractor shall submit short circuit and coordination studies signed by a registered electrical engineer. Studies shall be performed in acceptance with IEEE guidelines. Contractor shall submit for architect–engineer review prior to ordering and installing any equipment. Contractor shall ensure that the actual feeder lengths match studies (revise studies if necessary). Service equipment markings as required per CEC 110.24 shall be based on contractor submitted studies.
7. Submit conduits; fittings; outlet pull and junction boxes; wires; wiring devices; lighting fixtures; lamps; ballasts; safety switches; fuses; transformers; panelboards; switchboards; circuit breakers; lighting control system/devices; and fire alarm systems.

J. SUBSTITUTIONS

1. All requests for substitutions shall conform to the general requirements and procedure outlined in Division 1.
2. Where items are noted as "or equal", a product of equal design, construction and performance will be considered.
3. Substitutions shall be equal, in the opinion of the Owner's Representative, to the specified product.
4. The burden of proof of equality of a proposed substitution for a specified item shall be upon the Electrical Contractor. Electrical Contractor shall support its request with sufficient test data, photometric analysis, detailed breakdown defining cost savings, and other means to permit the Architect and/or Engineer to make a fair and equitable decision on the merits of the proposed substitution. Any item by a manufacturer other than those specified, or of brand name or model number will be considered a substitution. The Architect and/or Engineer will be the sole judge of whether or not the substitution is equal in quality, utility, and economy to that specified.
5. Approval of a substitution shall not relieve Electrical Contractor from responsibility for compliance with all requirements of the Contract documents. Electrical Contractor shall bear the expense for any changes in other parts of this work or other work caused by the proposed substitution.
6. If Architect and/or Engineer rejects Electrical Contractor's substitute item on the first submittal, Electrical Contractor may make only one additional request for substitution in the same category.

K. GUARANTEE & TESTING

1. Guarantee all material furnished and all workmanship performed for a period of one year from the date of final acceptance of the work. Any defects developing within this period, traceable to material furnished as a part of this Section or workmanship performed hereunder, shall be corrected as necessary at no cost to the Owner.
2. System shall be tested for proper operation. If tests show that work is defective, Electrical Contractor shall make corrections as necessary at no cost to the Owner.

L. LABELING

1. Provide engraved name plates on switchboards, panel boards, disconnect switches, motor control centers, transformers, etc., indicating equipment designated (or designation of equipment served) and voltage.

M. HOUSEKEEPING PADS

1. Provide 4 inch high concrete equipment pads for all floor–mounted equipment including switchboards, motor control centers, transformers, etc.

N. MATERIALS

1. All materials shall be new and of quality as specified on the plans or specifications and must carry the Underwriter's Laboratories approval covering the purpose for which they are used, in addition to meeting all requirements of the current applicable codes and regulations.
2. Electrical Contractor shall be responsible for replacing equipment which is damaged due to incorrect field wiring provided under this section or factory wiring in equipment provided under this section.

O. STORAGE AND HANDLING OF MATERIAL

1. Deliver materials and equipment to the project in the manufacturer's original, unopened, labeled containers. Protect against moisture, tampering, or damage from improper handling or storage. Electrical Contractor shall protect and be responsible for any damage to work or materials until final acceptance by the Owner, and shall make good without cost to the Owner, any damage or loss that may occur during this period.
2. Arrange for timely delivery of materials and equipment to the jobsite in order to minimize the length of time between delivery and installation.
3. Arrange for timely delivery of Owner supplied materials and equipment to the jobsite in order to minimize the length of time between delivery and installation.
4. Cover and protect any material which may be affected by the weather while in transit or stored at the project site. Any material found defective or not installed in accordance with the contract documents may be rejected by the Engineer.
5. No electrical work shall be installed in areas where other trade's work might cause physical damage to wires, conduit, equipment, boxes or fittings until the other trade's work has been completed. Any equipment or materials which become damaged shall be removed and replaced at no extra cost to the Owner.

P. CLEAN–UP

1. Keep the premises free from accumulation of waste materials, or rubbish caused by employees or work under this division of the specifications. At the completion of the work, remove all surplus materials, tools, etc., and leave the premises "broom–clean".

Q. EXCAVATION, CUTTING AND FITTING

1. Perform the excavation, cutting, fitting, repairing and finishing of the work necessary for the installation of electrical equipment. However, no cutting of the work of other trades of any structural member shall be done without the consent of the Architect.

R. EXCAVATION AND BACKFILL

1. Perform all excavation and backfilling required for work performed under this division of the specifications. Trench bottoms shall be graded true and free from stones or soft spots. Use excavated materials for backfill unless off site materials are deemed necessary by the Architect. Trenching and backfilling for electrical and telephone utility services to building shall be provided by the Electrical Contractor in accordance with utility company requirements.
2. Verify location of existing under ground utilities prior to trenching.

PART 2 – PRODUCTS AND EXECUTION

A. CONDUIT

1. All wiring shall be installed in listed metallic conduit except as permitted below. EMC may be used in all areas. IMC may be used in indoor locations not in contact with earth. EMT may be used in indoor locations not in contact with earth, not in concrete slabs or walls and not subject to damage. PVC may be used in or below concrete and direct buried in earth. Flexible steel conduit shall be used for indoor final connections to mechanical equipment not to exceed 36", and recessed removable fluorescent light fixtures not to exceed 72". Liquid–tight flexible steel conduit shall be for outdoor final connections to equipment not to exceed 36".
2. Where the conduit enters outlet boxes, fixtures or cabinets, firmly fasten by double locknuts and bushings (GRC and IMC only). Firmly fasten conduit to the building construction. Run exposed conduit parallel to the building lines, supported by appropriate hangers.
3. Cover metallic conduit in contact with earth or fill with polyethylene tape spiral wrapped, 1/2" lapped to provide double thickness. Tape shall be Scotch No. 50 tape. Conduit and ducts not under buildings and feeder ducts shall be installed per CEC 300.5, except that the bends in conduit larger than 1" in diameter shall be made with galvanized steel conduit treated as noted above. Make joints with compound to be watertight.
4. Conduit sizes shall be as required by code and as indicated or specified on drawings. No conduit smaller than 3/4 inch trade size shall be used.
5. Penetration through floor slabs where subject to damage shall be in wrapped rigid steel. Schedule 40 PVC elbows and penetrations may be used in slab on grade where penetrations occur in protected areas (walls, electrical rooms, etc.).
6. Conduits and outlets shall be concealed within the building structure, except that certain motor and lighting feeder conduits may be run exposed in certain areas as indicated on the drawings. Conduit shown to be installed in cabinets, counters, and casework shall be run as directed by the Architect.
7. All conduit serving roof mounted equipment and devices including HVAC equipment, GFCI maintenance receptacles and duct type smoke detectors shall be routed in the ceiling space. Conduit shall penetrate roof at equipment locations only. No conduit shall be installed horizontally across roof surface.
8. Flexible metallic and non–metallic conduit systems shall have a code sized copper ground conductor. Increase conduit size as required.
9. Flexible metal conduit/cut–in boxes for low voltage systems (tel/data) may be used in wall cavities provided the installation complies with CEC Article 348. All conduit for low voltage wiring systems in new wall partitions shall be EMT. Flexible metal conduit for these systems is not acceptable in new walls.
10. All empty conduit systems shall have a 200 pound test pull cord installed to facilitate installation of future wire.

B. FITTINGS

1. EMT–Fittings and conduit bodies shall be steel, malleable iron or die cast compression or set screw type.
2. IMC and GRC–Shall be steel or malleable iron type and shall engage a minimum of five (5) threads.

C. OUTLET, PULL AND JUNCTION BOXES

1. Pull and/or junction boxes shall be installed wherever shown on the drawings or as required by code.
2. Each switch, light, receptacle or other outlet shall be provided with a code gauge, galvanized steel outlet box. Junction and pullboxes shall be code gauge, galvanized steel. Outlet boxes shall be of the one piece, knockout type, in general 4–inch square, 2 1/8–inch with plaster ring. Plaster rings shall be set to provide not more than 1/8" from wall surface to ring. In no case shall plaster ring project beyond surface of wall. Single gang rings similar to Steel City 52050 shall be used for 4" boxes in unfinished brick. Number 180 boxes may be used for unfinished masonry flush wall outlets. Center all outlet boxes in block course.
3. Boxes installed in poured cement floors shall be flush type cast iron with watertight gasketed covers, gray metallic finish. Where boxes are installed in floors with tile or carpet floor covering, covers shall be of the recessed type to accommodate the floor covering.
4. Boxes installed for the alarm, computer and security system shall be provided with appropriate coverplates.
5. Pull boxes shall be the types, size and design as approved by the CEC for the class of installation required.
6. Pull boxes and outlet boxes shall be sized by the Electrical Contractor as required by the CEC based on number of conductors, yokes, straps, etc., used in the installation.

D. WIRE

1. Match building standards if applicable in an existing building condition, unless otherwise follow the specifications below.
2. Conductor sizes shown on the drawings are based on copper wire. Unless otherwise specified, all wire shall be 75 degree C Type THWN or XHHW. All branch circuit and feeder wiring shall be copper.
3. Where raceway and cables exposed to direct sunlight on or above rooftops, provide type XHHW–2 insulated conductors.
4. Wires shall be marked with color to simplify circuit identification. Unless otherwise required by local ordinances, identification shall be as follows:
   a. 120/208V and 120/240V
      Phase A: Black. Phase B: Red. Phase C: Blue
      Neutral: White. Ground: Green
   b. 277/480V
      Phase A: Brown. Phase B: Orange. Phase C: Yellow
      Neutral: Gray. Ground: Green
5. The wire shall be #12 AWG unless otherwise indicated.
6. No wire shall be installed in the conduit system until the conduit system is complete. Use U.L. approved lubricant to facilitate the installation of the conductors in the conduit system.
7. Conductors No. 10 AWG and smaller shall be solid. Conductors larger than No. 10 AWG shall be stranded.
8. MC cable may be utilized for #10 and #12 branch circuit wiring with the following limitations.
   a. The installation is in accordance with CEC Article 330.
   b. MC cable use is limited to wiring within partitions and walls and to connections to and between switches and wiring devices.
   c. MC cable is not to be used for home run circuiting. Home run circuiting shall be individual conductors installed in EMT conduit.

E. WIRING DEVICES

1. Switches: Wall switches shall be specification Grade AC silent type switches 20A, 120 – 277 volt. Hubbell 1221 (SP), 1222 (DP), 1223 (3–way) and 1224 (4–way). Dimmers shall be specification grade with preset slide control. Color shall be as approved by the Architect/Owner. Match building standard (if existing).
2. Receptacles: Duplex type outlets shall be heavy duty, specification grade NEMA 5–20R, 20A, 120V grounded type equal to Hubbell 5362. Isolated ground outlets shall be equal to Hubbell IG5362. Special application receptacles shall be as indicated on plans and verified with equipment supplier. Color shall be as approved by the Architect/Owner. Match building standard (if existing).
3. Weatherproof Receptacles: Covers shall be Hubbell WPFS26 with 5362 duplex outlet or equal.
4. GFCI Receptacles: Shall be Hubbell GF5362. GFCI receptacles shall be used in all outdoor applications as well as those placed within 6' of water source and all other CEC required locations.
5. Mounting Heights (unless otherwise noted on plans): Switches – +48 inches. Receptacles – +18 inches. Communication Devices – +18 inches. Fire Alarm Devices – As required by ADA, NFPA 72 or Authority Having Jurisdiction. All mounting heights are to centerline of device.
6. Device plates shall be equal to Sierra smooth–fine plastic wall plates. Color shall be as approved by the Architect/Owner. Match building standard (if existing).
7. In all cases, switches controlling lighting are to be located on the strike side of doors. Locations indicated for switches and outlets are approximate. Owner may make minor relocations at no additional charge.

F. LIGHTING FIXTURES

1. Coordinate the final location of fixtures shown diagrammatically on the drawings with other trades in order to avoid interferences. Relocate fixtures as required as part of the work under this Division if new location is within a five foot radius of location shown.
2. Provide all lighting fixtures, wired and connected. The drawings indicate the fixtures for each location. Electrical Contractor shall verify fixture locations, mounting requirements and U.L. labeling of all fixtures prior to ordering. Include all accessories needed for a complete installation including mounting clips, plaster frames, hangers and hardware in base bid. Provide lamps for all fixtures. Verify ceiling construction before ordering recessed units.
3. Adjustable fixtures shall be located and properly aimed as directed by the Architect or the Lighting Designer.
4. Support recessed fixtures from ceiling structural support per adopted building codes.
5. All fixtures to bear the UL label. All outdoor fixtures shall be U.L. labeled for wet or damp location as defined by CEC Article 100.

G. LAMPS

1. Lamps shall be by the same manufacturer. Lamps shall be manufactured by GE, Phillips, Ushio, NICHIA, Samsung LED or CREE.
2. Incandescent – Extended lamp life, inside frosted.
3. Fluorescent – Minimum 75 CRI, 3500K, 20,000 rated lamp hours.
4. Compact Fluorescent (CFL) – Minimum 80 CRI, 3500K, 10,000 rated lamp hours.
5. Metal Halide – Minimum 65 CRI, 15,000 rated lamp hours.
6. High Pressure Sodium (HID) – Minimum 22 CRI, 24,000 rated lamp hours.
7. Light Emitting Diode (LED) – Minimum 80 CRI indoors and 70 CRI outdoors, 3500K (U.N.O.), 50,000 rated lamp hours. LEDs must be from the same manufacturer and batch.

H. BALLASTS / DRIVERS

1. Fluorescent
   a. Electronic, rapid start, high power factor, normal (0.88) ballast factor, less than 20–percent total Harmonic distortion and "A" sound rating.
   b. Compact fluorescent: electronic, fully encapsulated, 90–percent minimum power factor, 20 KHZ or higher operation frequency, less than 5–percent flicker, lamp current crest factor of 1.7 or less. Transient protection shall comply with IEEE (62.41) for category A1 locations. Interference shall comply with 47 CFR, Chapter 1, Part 18, subpart C for limitations on electromagnetic and radio frequency interference for nonconsumer equipment.
   c. Outdoor fixtures shall have electronic ballasts rated for 0 degrees F starting temperature.
2. High–Intensity Discharge (HID)
   a. Ballasts shall comply with ANSI C82.4, shall be constant voltage autotransformer high power factor type. Open circuit operation will not reduce average life of ballast.
   b. The ballast shall be designed for an ambient operating temperature of 104 degrees F and shall start at minus 22 degrees F.
   c. Auxiliary, Instant–on Quartz System – Automatically switches quartz lamp on when fixture is initially energized and when momentary power outages occur. Automatically turns quartz lamp off when high–intensity–discharge lamp reaches approximately 60 percent light output.
3. Light Emitting Diode (LED)
   a. Drivers shall be easily accessible without the use of special tools. Luminaires shall be capable of being operated by standard motion/vacancy sensors, daylight sensors, and dimmers. Dimming for 0–10 Volt DC control circuits minimum. Drivers shall be specifically compatible with lighting control system being provided.
   b. Temperature rating: –20 degrees Celsius minimum starting temperature. Luminaires accessories shall be able to withstand temperatures in excess of 110 Fahrenheit degrees.
   c. 90–percent minimum power factor, 50–60 Hz frequency, total harmonic distortion less than 20–percent, LED and driver life expectancy of 50,000 minimum projected hours at 6,000 hours testing for both LEDs and drivers; luminaries in contact with insulation materials shall be IC rated; rated for dry and damp locations.
   d. Approved driver manufacturers include Osram, Philips, Kenall, EldoLED, General Electric, and others only if approved.

I. SAFETY SWITCHES

1. Safety switches shall be general duty type, 250 volt for 208 volt equipment and heavy duty type, 600 volt for 480 volt equipment. Safety switches shall have the number of poles required. Wire terminations shall be listed as specified by the CEC. Safety switches for air conditioning use shall be of the fusible type where recommended by equipment manufacturer. Fusible switches shall accept class 'R' fuses only and will reject all other types. The switch size, number of poles and voltage rating shall be as required by code and as indicated on the drawings. Where outside the building, the switches shall be type NEMA 3R weatherproof. All switches shall be lockable.
2. Provide dymo–tape tag inside cover of each fusible switch, indicating size and type of fuses provided.

J. FUSES

1. Fuses shall be dual element time delay type, as manufactured by Bussman Mfg. Company, or as indicated or required by the equipment supplied.
2. Provide two (2) sets of three (3) spare fuses for each size and type provided on this project. Install fuses in a hinged door, sheet metal storage cabinet equipped with clips or cubicles, each marked with the size and type of fuse stored therein. Provide nameplate "Spare Fuses." Install in location as directed by Owner.

K. SERVICE ENTRANCE

1. The service entrance equipment size, voltage and rating shall be as indicated on the drawings. Provide copper busing unless otherwise noted or permitted. Equipment shall carry the U.L. label and shall conform to the power company regulations.
2. Electrical Contractor is responsible to verify and confirm that equipment submitted shall fit within the allotted space requirements shown on the plans. Drawings indicate maximum dimensions for switchboards including clearances between switchboards an adjacent surfaces and other items. Comply with maximum dimensions. If any space or size discrepancies are anticipated it is the Electrical Contractor's responsibility to notify the Engineer prior to submittal. Once the submittals have been approved it is the Electrical Contractor's responsibility to install the equipment within the allotted space at no additional cost to the Owner.
3. Service entrance equipment shall be manufactured by General Electric, Square D, Cutler–Hammer, Siemens or approved equal.
4. All overcurrent protection devices and electrical distribution equipment shall be fully (100%) rated for available fault current indicated. Series rated devices are not acceptable.

L. TRANSFORMERS

1. Transformers shall be dry type with copper windings, 115° temperature rise, and DOE10 CFR Part 431 Appendix A of Subpart K 2019. Energy efficiency under DOE 2019 requirements is to be Energy Verified by UL.
2. All transformers shall be provided with class 220 degree Celsius insulation system and shall be completely enclosed except for ventilation openings.
3. Transformers shall be 115 degree temperature rise above 40 degree Celsius ambient temperature.
4. Transformers shall be equipped with four 2–1/2% (2 above and 2 below normal voltage) primary taps.

M. PANELBOARDS

1. Circuit breaker type as indicated on drawings. All panels shall have panelboard type construction with bolt–on circuit breakers. Panels indicated as loadcenters shall have plug–on circuit breakers.
2. Busing shall be copper unless otherwise noted or permitted.
3. Manufacturers shall be General Electric, Square D, Cutler–Hammer, Siemens with voltage, sizes and ratings as indicated on drawings. All panelboards in the facility shall be by the same manufacturer.
4. The circuit breakers shall be operable in any position and be removable from the front of the panelboard without disturbing the adjacent units. Branch breakers shall be of such design that combination of single–pole, double–pole and three–pole breakers can be assembled on the same panel. Each branch circuit shall be clearly numbered. Branch and main terminals shall be of the solderless type. Handle ties to form multi–pole breakers are not acceptable.
5. Wire termination for panelboards, loadcenters and circuit breakers shall be listed as specified by the CEC.
6. Provide a typewritten circuit index behind clear plastic cover on inside of door. Information shall include room and type of load served. All circuit breakers shall be identified, including spares. Index card frame shall be metal, secured to door.
7. Where panelboards are installed flush with the walls, extend empty conduits from the panelboard to an accessible space above or below. Provide 3/4" (minimum size) conduit for every three single spare circuit breakers or space or equivalent multi–pole arrangement, or fraction thereof, but not less than two conduits for each panelboard.

N. SYSTEM GROUNDING

1. Grounding shall comply with requirements of Article 250. All exposed noncurrent–carrying metallic parts of electrical equipment, metallic raceway systems, metallic cable armor, grounding conductor of nonmetallic sheathed cables, grounding conductor in nonmetallic raceways, and grounded conductors of the wiring system shall be grounded.
2. The grounded conductor (neutral) of the wiring system shall be connected to the system grounding conductor at a single place in each system by removable bonding jumpers, sized according to the applicable provisions of the CEC. The grounded conductor (neutral) to the grounding conductor connection shall be located in the enclosure for the system's overcurrent protection or where otherwise indicated on the plans or specifications.
3. Ground bus separate from the neutral bus shall be provided in all switchboards and panelboards. Ground bus shall be retorqued (checked) prior to energizing equipment per manufacturer's recommendations.
4. Ground buses and neutral buses in all distribution panels, switchboards, panelboards and those provided in any equipment shall be isolated except where required to be connected as specified above for the service entrance and in transformer terminal compartments.
5. When indicated on the drawings, equipment grounding conductors shall be extended from the ground bus in the distribution equipment to the receptacle, fixture or device lugs where they are provided. When not provided, they shall be connected to equipment enclosures. The connections shall be arranged such that removal of the receptacle, the equipment ground conductors, or the ground jumpers from ground busing shall not affect the ground system.
6. Raceways may not be used as a grounding conductor for power and lighting circuits. Every conduit supplying power and lighting circuits shall have a separate code sized green ground wire installed in the conduit to ensure a continuous grounding path.
7. In inaccessible locations make connections by exothermic weld process.
8. In accessible locations, connections shall be made with approved bolted bronze grounding devices.

O. EQUIPMENT CONNECTIONS

1. All motors shall be wired to conform with manufacturer's recommendations and with applicable codes. Furnish necessary materials, such as wire, conduit, fittings, etc. required to connect motor. However, motors, controls, etc. shall be furnished by the supplier of the driven equipment. Verify equipment location and sizes with the trade supplying the motor before installing the conduit or outlets.
2. Final connection to all HVAC or motor loads from load side of disconnect shall be made using copper wire only, aluminum wire not acceptable.

P. COMMUNICATION SYSTEMS

1. For all communication outlets provide double gang back box with single gang plaster ring. Provide 1" conduit to 6" above accessible ceiling with 90° bend and conduit bushing unless otherwise noted on drawings. For non–accessible ceilings, route conduit to nearest accessible ceiling space or to nearest communication closet. Provide blank cover plates for all unused boxes.
2. Provide 3/4" fire rated plywood for telephone terminal backboard and paint to match wall surface. Refer to drawings for dimensions of backboard.
3. Provide #6 AWG CU ground wire from equipment backboard to building service ground.

Q. LIGHTING CONTROL

1. Furnish and install lighting control panels, override switches, time switches, photocells and contactors required for lighting control as indicated on the drawings. Lighting control panel and all associated components shall conform to adopted energy codes.

R. FIRE ALARM SYSTEM

1. Fire alarm is not shown on these drawings. Fire alarm is required as a part of the Contractor's scope of work. Contractor shall engage the services of a state licensed fire alarm contractor for the design and installation of a complete and operable fire alarm system that complies with all NFPA, CEC and local ordinances and requirements approved by Authority Having Jurisdiction. System design and installation shall be compatible with existing shell building and approved by Landlord prior to bid. Manufacturer of fire alarm system shall be the same manufacturer as the shell building unless otherwise approved by Landlord and Authority Having Jurisdiction. Include all costs in base bid.

NOT FOR CONSTRUCTION

Waiver of Liability:
The County of El Dorado requires participating end user property owner(s) to release, hold harmless, and indemnify Consultant, subcontractors, and the County and its' employees from any and all claims, liabilities or damages arising out of the use of these ADU construction documents.

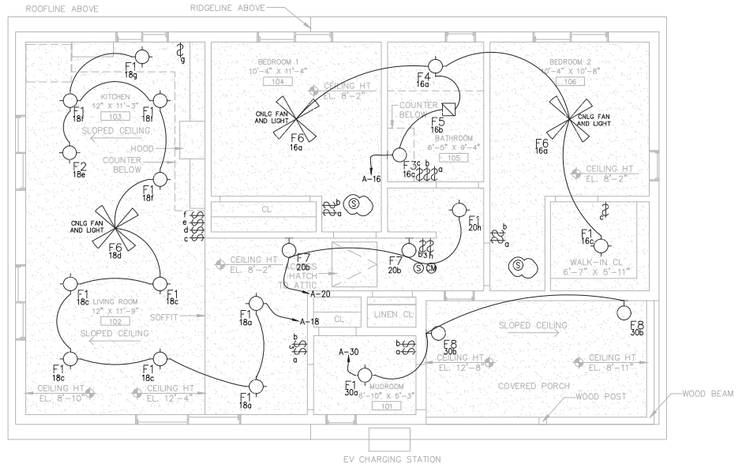
PERMIT SET

El Dorado County
Permit–Ready
Accessory Dwelling Unit

TITLE:
ELECTRICAL SPECIFICATIONS

PROJECT: 2102
SCALE: N/A
DRAWN BY: REX
DATE: 11/10/2023
©2023 RADAR

SHEET NUMBER: E0-02



1ST FLOOR LIGHTING PLAN 02
SCALE: 1/4" = 1'-0"

SYMBOL LEGEND
- (S) SMOKE DETECTOR
- (CM) CARBON-MONOXIDE DETECTOR
- EXHAUST FAN
- CEILING MTD. LIGHT FIXTURE
- WALL MTD. LIGHT FIXTURE

NOT FOR CONSTRUCTION

SUGGESTED LIGHTING FIXTURE SCHEDULE

FIXTURE DESIGNATION	DESCRIPTION	LAMP WATTS	LAMP TYPE	VA	VOLTAGE	MANUFACTURER	CATALOG #	DIMMING TYPE	DRIVER	REMARKS
F1	DOWNLIGHT	8.9	LED		120	LITHONIA	4JBK RD 30K 90CRI BN M6	0-10V	INTEGRAL	VERIFY REFLECTOR, FINISH OPTIONS, AND FLANGE OPTIONS PRIOR TO PURCHASE.
F2	KITCHEN PENDANT	60	LED		120	SCHOOLHOUSE	SHELBY MOD PENDANT	N/A	N/A	VERIFY REFLECTOR, FINISH OPTIONS, AND FLANGE OPTIONS PRIOR TO PURCHASE.
F3	BATHROOM WALL SCONCE	60	LED		120	SCHOOLHOUSE	ALLEGHENY SCONCE	N/A	N/A	VERIFY REFLECTOR, FINISH OPTIONS, AND FLANGE OPTIONS PRIOR TO PURCHASE.
F4	BATHROOM /SHOWER DOWNLIGH	8.9	LED		120	LITHONIA	4JBK RD 30K 90CRI BN M6	0-10V	INTEGRAL	VERIFY REFLECTOR, FINISH OPTIONS, AND FLANGE OPTIONS PRIOR TO PURCHASE.
F5	BATHROOM EXHAUST FAN LIGHT	10	LED		120	PANASONIC WHISPER WARM DC	FV-0511VHL1	CHIP PANEL	N/A	VERIFY REFLECTOR, FINISH OPTIONS, AND FLANGE OPTIONS PRIOR TO PURCHASE.
F6	BEDROOMS FAN/LIGHT	18	LED		120	SCHOOLHOUSE	HUGH 52" LED CEILING FAN	N/A	N/A	VERIFY REFLECTOR, FINISH OPTIONS, AND FLANGE OPTIONS PRIOR TO PURCHASE.
F7	HALLWAY WALL SCONCE	60	LED		120	SCHOOLHOUSE	ALLEGHENY SCONCE	N/A	N/A	VERIFY REFLECTOR, FINISH OPTIONS, AND FLANGE OPTIONS PRIOR TO PURCHASE.
F8	PORCH WALL SCONCE	60	LED		120	SCHOOLHOUSE	ALLEGHENY SCONCE	N/A	N/A	VERIFY REFLECTOR, FINISH OPTIONS, AND FLANGE OPTIONS PRIOR TO PURCHASE.

NOTES:
1. FIXTURE SCHEDULE INDICATES A GENERAL DISCRIPTION OF LIGHTING FIXTURES AND MANUFACTURER'S CATALOG NUMBERS. IT SHALL BE THE BUILDER'S RESPONSIBILITY TO DETERMINE THE CORRECT CEILING CONFIGURATION AND
2. IT SHALL BE THE BUILDER'S RESPONSIBILITY TO VERIFY THE EXACT LOCATION OF ALL LIGHTING FIXTURES AND TYPES OF CEILINGS WITH ARCHITECTURAL REFLECTED CEILING PLAN PRIOR TO ANY WORK.
3. VERIFY LAMP AND DRIVER VOLTAGE REQUIREMENTS WITH CIRCUITING INDICATED ON DRAWINGS.
4. VERIFY LAMP COLOR TEMPERATURE RATINGS WITH ARCHITECT AND.OR LIGHTING DESIGNER PRIOR TO ORDERING.
5. EXTERIOR LIGHTS TO BE CONTROLLED WITH AN OVERRIDE OFF PHOTO SENSOR.
6. ALL LIGHTS SHALL BE HIGH EFFICACY
7. EXTERIOR LIGHTS SHOULD BE CUTOFF FIXTURESTO PREVENT DIRECT LIGHT TRESPASS INTO NEIGHBORING PROPERTIES.

FIXTURE SCHEDULE 01
SCALE: NO SCALE

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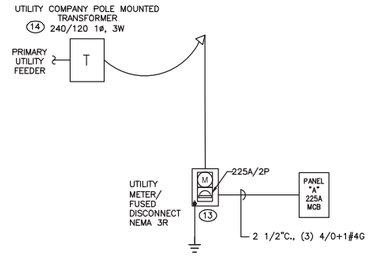
PERMIT SET

El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE
1ST FLOOR LIGHTING PLAN AND FIXTURE SCHEDULE

PROJECT 2102
SCALE 1/4" = 1'-0"
DRAWN BY REX
DATE 11/10/2023
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SHEET NUMBER
E2-01



PRELIMINARY SINGLE LINE DIAGRAM 03
SCALE: NO SCALE

PANEL A (5) AIC RATING

VOLTAGE : 120/240 VOLTS 1 PHASE, 3 WIRE
BUS RATING : 225 AMPS
MAIN : 225A MCB
LOCATION: SEE PLAN

CB OPT: AF - ARC FAULT CIRCUIT INTERRUPTER
GF - GROUND FAULT CIRCUIT INTERRUPTER (17)

OPTIONS: FLUSH MOUNTED

LOAD TYPE	LOAD (VA)	CKT	LOAD SERVED	CB AMP/P	CB 1	CB 2	PHASE A	PHASE B	CB 1	CB 2	CKT	LOAD SERVED	CB AMP/P	LOAD (VA)	LOAD TYPE
RECEPTACLE	720	1	LIVING RM/KITCHEN RECEPT	20/1	AF		A			AF	2	REFRIGERATOR	20/1	600	KITCHEN
RECEPTACLE	540	3	LIVING RM RECEPT	20/1	AF			B		AF	4	DISHWASHER	20/1	1500	KITCHEN
RECEPTACLE	900	5	BEDROOM 1	20/1	AF		A			AF	6	GARBAGE DISPOSAL	20/1	1800	KITCHEN
RECEPTACLE	720	7	BEDROOM 2	20/1	AF			B		AF	8	MICROWAVE	20/1	1200	KITCHEN
RECEPTACLE	540	9	BEDROOM 2	20/1	AF		A			AF	10	SMALL APPLIANCES	20/1	1500	KITCHEN
RECEPTACLE	540	11	HALLWAY	20/1	AF			B		AF	12	SMALL APPLIANCES	20/1	1500	KITCHEN
RECEPTACLE	360	13	EXTERIOR RECEPT	20/1	AF		A			AF	14	BATHROOM RECEPT	20/1	180	RECEPTACLE
RECEPTACLE	540	15	MUDROOM & PORCH	20/1	AF			B		AF	16	CEILING FAN AND EF-1	20/1	135	LIGHTING
MOTOR	1248	17	CU-1	15/2			A			AF	18	CEILING FAN AND LIGHTING	20/1	187	LIGHTING
MOTOR	1248	19	-	-				B		AF	20	HALLWAY LIGHTING	20/1	129	LIGHTING
MISC	2880	21	EV CHARGER	30/2			A			30/2	22	EWH-1		2250	MISC
MISC	2880	23	-	-				B		-	24	-		2250	MISC
RECEPTACLE	2880	25	UNITIZED WASHER/DRYER	30/2	AF		A			50/2	26	RANGE		2880	KITCHEN
RECEPTACLE	2880	27	-		GF			B			28	-		2880	KITCHEN
RECEPTACLE	180	29	LAUNDRY CONVENIENCE	20/1	AF		A			AF	30/1	EXTERIOR LIGHTING		120	LIGHTING
		31	SPACE					B	AF		20/1	MAINTENANCE RECEPT		180	RECEPTACLE
		33	SPACE				A					SPACE		34	
		35	SPACE					B				SPACE		36	
		37	SPACE				A					SPACE		38	
		39	SPACE					B				SPACE		40	
		41	SPACE				A					SPACE		42	

EXISTING METER#2 PHASE A PHASE B
LOAD X 125%

PANEL CALCULATIONS:

LOAD TYPE	LOAD (VA)	DEMAND FACTOR	DEMAND LOAD	
RECEPTACLE	11160	PER NEC ARTICLE 220.14	10560	VA
LIGHTING	553	125%	691	VA
MOTOR	2496	100%	2496	VA
7 KITCHEN	13860	65%	8679	VA
0 ELEVATORS	0	100%	0	VA
HEAT	0	100%	0	VA
MISC	10260	100%	10260	VA
HOTEL/RES. UNIT	0	PER NEC ARTICLE 220.42	0	VA
0 UNIT PANELS	0	100%	0	VA
25% OF LARGEST MOTOR			624	VA
955 RESIDENTIAL SQFT				

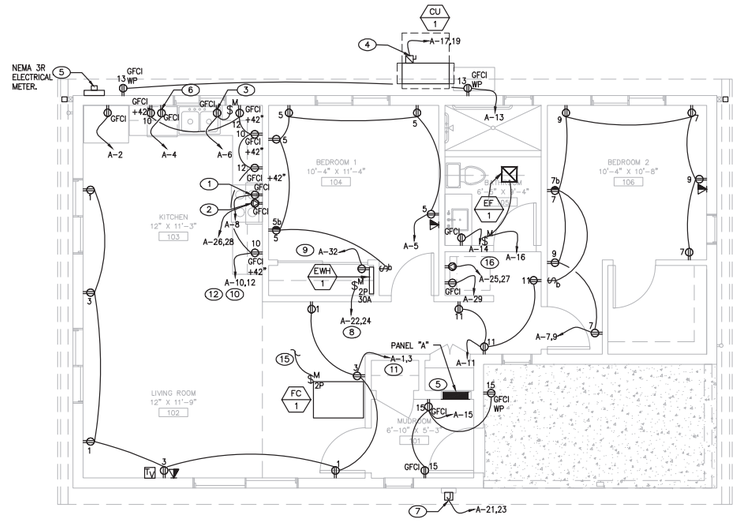
FEED THROUGH PANEL LOAD (KVA)

SUB FEED LOADS AMP/P LOAD TYPE

LOAD SUMMARY

CONNECTED LOAD	VA	AMPS
PHASE A	19014	158.5
PHASE B	19115	159.3
TOTAL CONNECTED LOAD	38 129 kVA	
TOTAL DEMAND LOAD	33.5 kVA	
LINE TO LINE VOLTAGE	240 VOLTS	
PANEL AMPS	139.7 AMPS	

PANEL SCHEDULE 02
SCALE: NO SCALE



1ST FLOOR POWER PLAN 01
SCALE: 1/4" = 1'-0"

KEYED NOTES

1. PROVIDE RECEPTACLE FOR MICROWAVE. PRIOR TO INSTALLATION, VERIFY LOCATION WITH RANGE CONFIGURATION. MICROWAVE TO BE MOUNTED ABOVE RANGE WITH RECEPTACLE LOCATED WITHIN 30" OF TOP OF STOVE. MAINTAIN 6" OF CLEARANCE BETWEEN ANY WALLS.
2. PROVIDE 1"C – 2#8 + 1#10 GND AND 240V 40A RECEPTACLE FOR RANGE. RECEPTACLE SHALL BE A MINIMUM OF 12" FROM FINISHED FLOOR TO CENTER OF OUTLET. PRIOR TO INSTALLATION, VERIFY WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
3. PROVIDE GFCI RECEPTACLE IN UNDER SINK CABINET FOR GARBAGE DISPOSAL. RECEPTACLE SHALL BE INSTALLED IN COMPLIANCE WITH CALIFORNIA ELECTRICAL CODE, CEC 422.16(B).
4. PROVIDE 3/4"C – 2#12 + 1#12 GND AND WEATHER PROOF 30AS, 15AF 208V 1ø DISCONNECT SWITCH.
5. WITHSTAND RATING PANEL SHALL BE SIZED PER AVAILABLE FAULT CURRENT FROM UTILITY COMPANY
6. PROVIDE GFCI RECEPTACLE FOR DISH WASHER. RECEPTACLE SHALL BE INSTALLED IN COMPLIANCE WITH CALIFORNIA ELECTRICAL CODE, CEC 422.16(B).
7. PROVIDE WALL-MOUNTED EV CHARGING STATION, 3/4"C – 2#10 + 1#10 GND TO ACCOMMODATE DEDICATED BRANCH CIRCUIT. PRIOR TO INSTALLATION, VERIFY LOCATION WITH DRIVEWAY CONFIGURATION.
8. PROVIDE 3/4"C – 2#10 + 1#10 GND FOR ELECTRIC WATER HEATER, LOCATED IN ATTIC SPACE ABOVE BEDROOM-1.
9. PROVIDE MAINTENANCE RECEPTACLE FOR PLUMBING AND MECHANICAL EQUIPMENT SPACE, LOCATED IN ATTIC SPACE ABOVE BEDROOM-1.
10. PROVIDE DEDICATED NEUTRAL FOR EACH CIRCUIT. (TYP.)
11. ALL NON-LOCKING TYPE 125V, 15A AND 20A RECEPTACLES AS REQUIRED IN NEC 210.52 IN DWELLING UNITS SHALL BE TAMPER RESISTANT TYPE UNLESS EXEMPTED IN NEC 406.12. (TYP.)
12. PROVIDE AFCI BREAKER COMPLY WITH NEC 210.12 (A) (B), AND (C) FOR KITCHENS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, BEDROOMS, CLOSETS, HALLWAYS ,LAUNDRY AREAS, OR SIMILAR ROOMS. (TYP.)
13. VERIFY METER AND DISCONNECT LOCATION PER LOCAL UTILITY COMPANY REQUIREMENTS. PROVIDE BREAKER KAIC RATING SIZED PER AVAILABLE FAULT CURRENT FROM UTILITY COMPANY.
14. PRIMARY SERVICE CONNECTION, PER REQUIREMENT AND COORDINATION WITH UTILITY COMPANY.AVAILABLE FAULT CURRENT TO BE PROVIDED BY THE UTILITY COMPANY.
15. CONNECT TO THE OUTDOOR UNIT. PROVIDE WIRING COMPLY WITH THE INSTALLATION MANUAL.
16. PROVIDE 3/4"C – 2#10 + 1#10 GND AND 240V 30A RECEPTACLE FOR WASHER/DRYER.
17. PROVIDE A 100-120KA SURGE PROTECTION DEVICE IN THE PANELBOARD.

NOT FOR CONSTRUCTION

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Accessory Dwelling Unit

TITLE
1ST FLOOR POWER PLAN AND ROOF POWER PLAN

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