

Residential Load Calculation

Service capacity for added electric-vehicle supply equipment

Project	1412 Rosewood Ave — Level 2 EV charger
Address	1412 Rosewood Ave, Sacramento, CA
Calculation method	NEC 220.87
Service voltage	240 V
EVSE continuous rating	48 A
Existing service	100 A
Generated	2026-08-05

Result

Calculated load	95.00 A
Minimum standard service	100 A
Existing service adequate	Yes
EVSE branch circuit	60 A minimum conductor ampacity
EVSE overcurrent device	60 A

Scope and limitations

This is a code-cited documentation package, not a stamped plan set. It has not been prepared, reviewed, sealed or signed by a licensed Professional Engineer.

Acceptance is not guaranteed. Authorities having jurisdiction amend and interpret the code, and may require additional information, a different calculation method, or a sealed drawing.

Code requirements are cited by article and section number. No code text is reproduced.

The installing electrician remains responsible for verifying every input, for field conditions, and for compliance with the edition of the code and any local amendments actually adopted in this jurisdiction.

Load calculation worksheet — NEC 220.87

Existing load from measured maximum demand

Measured maximum demand	28.00 A
Data source	12 months of maximum-demand data
Measured demand at 125%	35.00 A
New load (EVSE, continuous, at 125%)	60.00 A
Total calculated load	95.00 A
Existing service rating	100 A
Headroom	5.00 A

Notes and assumptions

- The charger enters the calculation at its continuous rating $\times 125\% = 60$ A, per 625.41.
- Measured demand 28 A $\times 125\% = 35$ A.
- Based on 12 months of maximum-demand data.
- The service must also have overload protection per 230.90, or the feeder overcurrent protection per 240.4.
- 95 A is within the existing 100 A service.

EVSE branch circuit

Equipment continuous rating	48 A
Continuous-load factor (625.41)	125%
Minimum circuit ampacity	60.00 A
Minimum conductor ampacity	60.00 A
Overcurrent device (240.6(A))	60 A

- EVSE is a continuous load: $48\text{A} \times 125\% = 60\text{A}$ minimum circuit.

Conclusion

The calculated load is within the existing 100 A service. No service upgrade is indicated by this calculation.

Smallest standard service that covers the calculated load: 100 A.

Code references

Requirements are cited by article and section number. Code text is not reproduced. Verify against the edition adopted in this jurisdiction.

Section	Applied to
220.87	Determining existing loads from measured maximum demand, taken at 125%.
230.90	Service overload protection.
240.4	Protection of conductors.
625.41	Electric vehicle supply equipment is a continuous load — branch circuit at 125%.
625.42	EVSE rating; energy management as an alternative to increasing service capacity.
240.6(A)	Standard overcurrent device ratings.

Scope and limitations

This is a code-cited documentation package, not a stamped plan set. It has not been prepared, reviewed, sealed or signed by a licensed Professional Engineer.

Acceptance is not guaranteed. Authorities having jurisdiction amend and interpret the code, and may require additional information, a different calculation method, or a sealed drawing.

Code requirements are cited by article and section number. No code text is reproduced.

The installing electrician remains responsible for verifying every input, for field conditions, and for compliance with the edition of the code and any local amendments actually adopted in this jurisdiction.

Software

CircuitProof v0.1.0 · calculation engine outputs are reproduced verbatim in this document; no figure on any sheet is recomputed at render time.