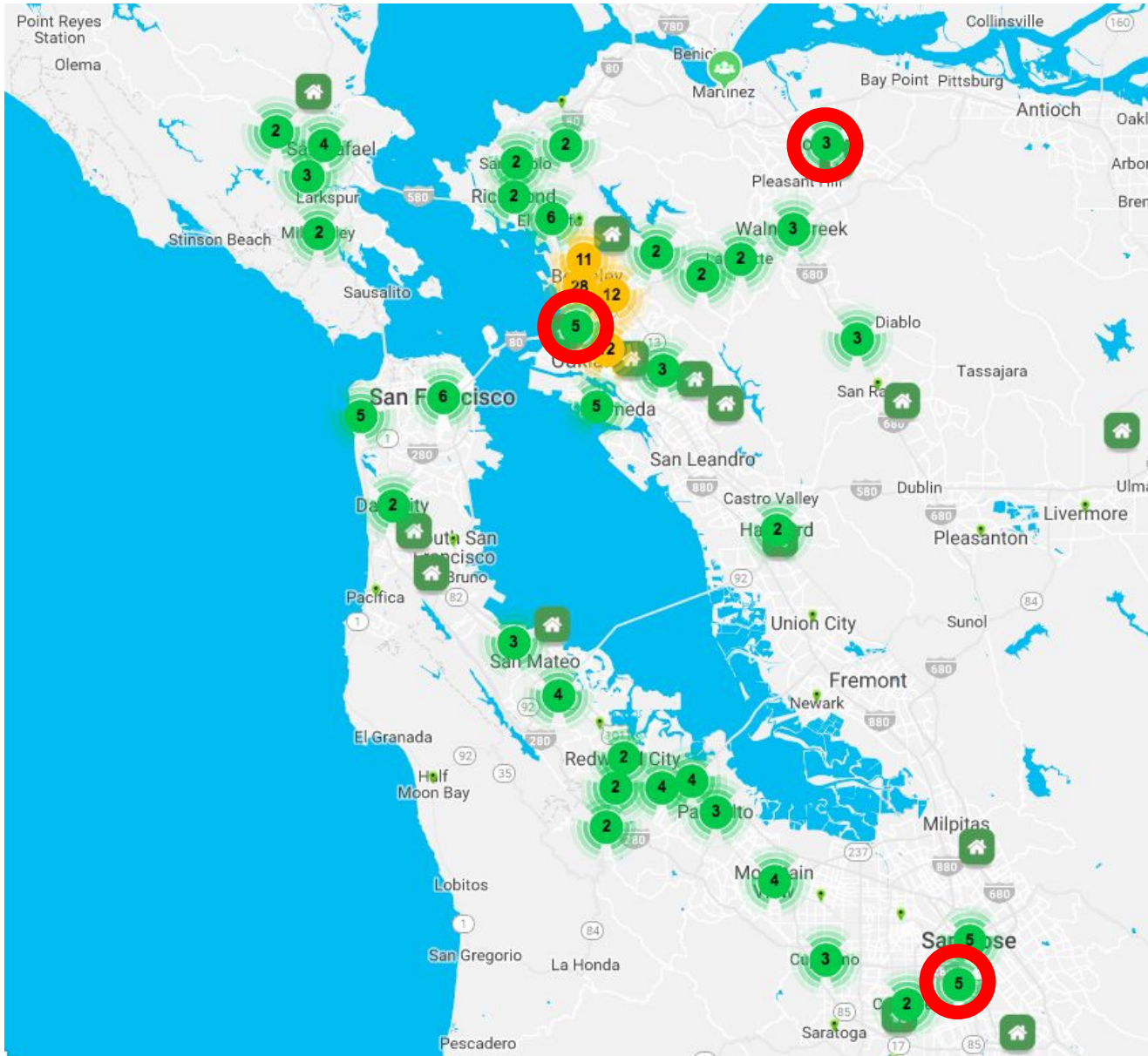




Kevin Casey
New Avenue Homes
BayREN, Sept 2018



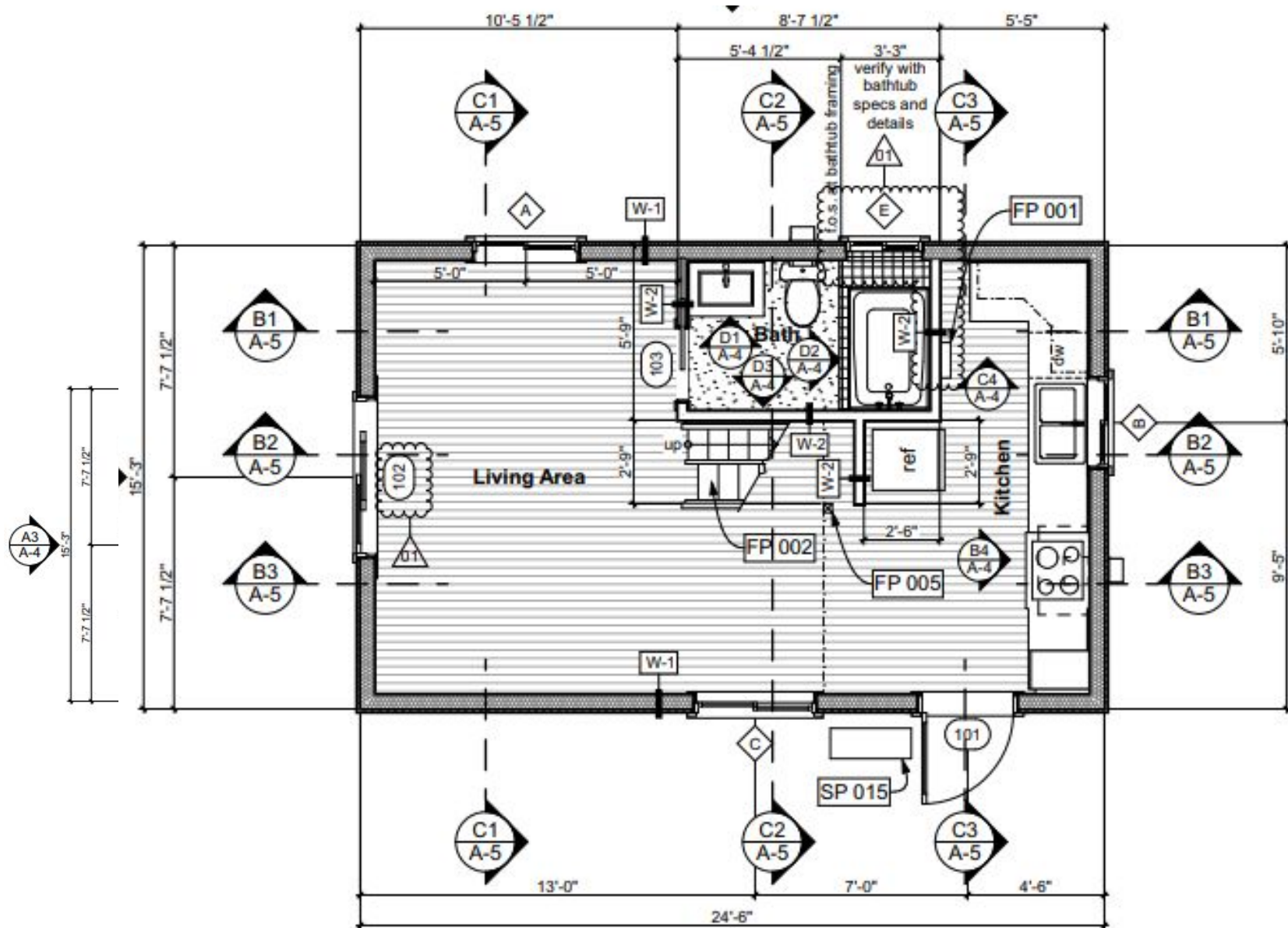
A Regional Perspective - 3 ADU Case Studies



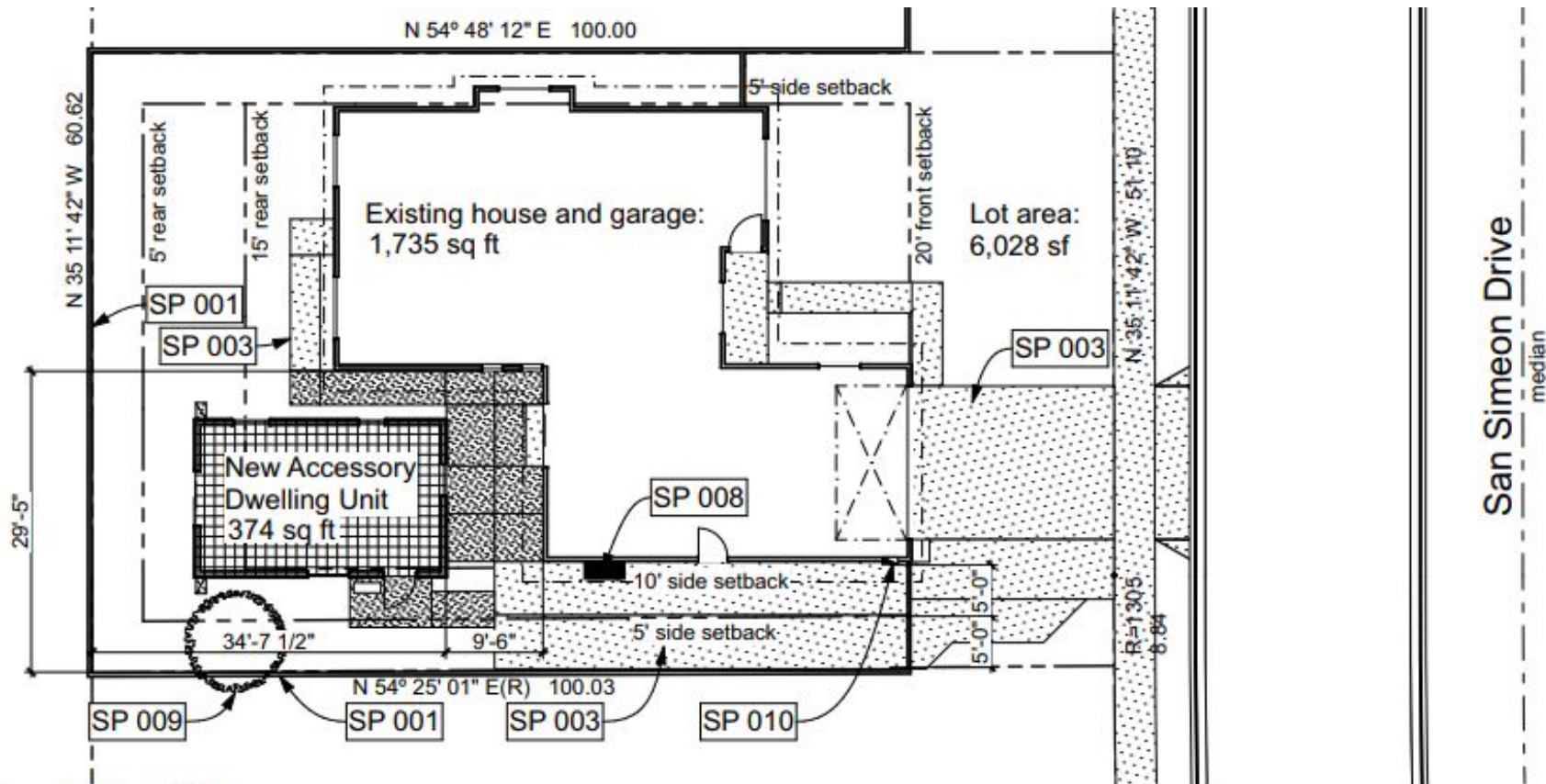
- Concord
- Berkeley
- San Jose

Concord Detached ADU

~24x15 = 375 sq ft



Concord - Shoehorned in



B1
A-2

Site Plan

SCALE: 1/16" = 1'-0"

Concord - Shoehorned in



Concord: “Engineered Framing”





Concord: Ouch - Thermal Bridging

Contractor: “Need insulation outside the envelope. The structurals were so intense that you have a stud every 6”. They are 4"x6" very often too.”



“Used closed cell spray foam open cell on outside as part of stucco. 108 degrees outside and really nice and cool on the inside.”



Concord: Permitting Improved the Efficiency!

- Electric mini split heat pump = no gas
- R-47 roof, spray foam walls + exterior insulation on walls

C3

SP 015 New outdoor unit for heating cooling split system. Location and installation to be per equipment manufacturers specifications. Verify make and model with Owner prior to purchase and installation.

FP 001 Whole house tankless electric water heater. Verify make and model with Architect and Owner. Verify power requirements with manufacturer. Verify exact location with manufacturer's specifications and Owner.

FP 002 Alternating tread stair to attic. 2x12 hardwood stringers, 2x10 hardwood treads. Verify wood type and finish with Architect and Owner prior to stair construction.

FP 003 Indoor unit for heating cooling split system. Center over window below. Verify mounting height to be per equipment manufacturers specifications and installers recommendation. Verify make and model with Owner prior to purchase and installation. Verify power requirements with manufacturer.

FP 004 Post and beam per structural drawings.

FP 005 Exposed stain-grade structural wood post per structural drawings. Verify stain or paint finish with Owner.

RP 001 Roof Assembly: Composite shingles roofing to match pattern and color of existing house roofing over waterproof membrane over sheathing per Structural Drawings over rafters per Structural Drawings with 1" deep attic/rafter cathedral ceiling airway vent (Accuvent or Durovent or similar product) between rafters with high-density spray foam between rafters to thickness required for R-47 as specified in T-24 report; ceiling to be 1/2" gypsum ceiling board, taped, textured, and painted.

24'-6"

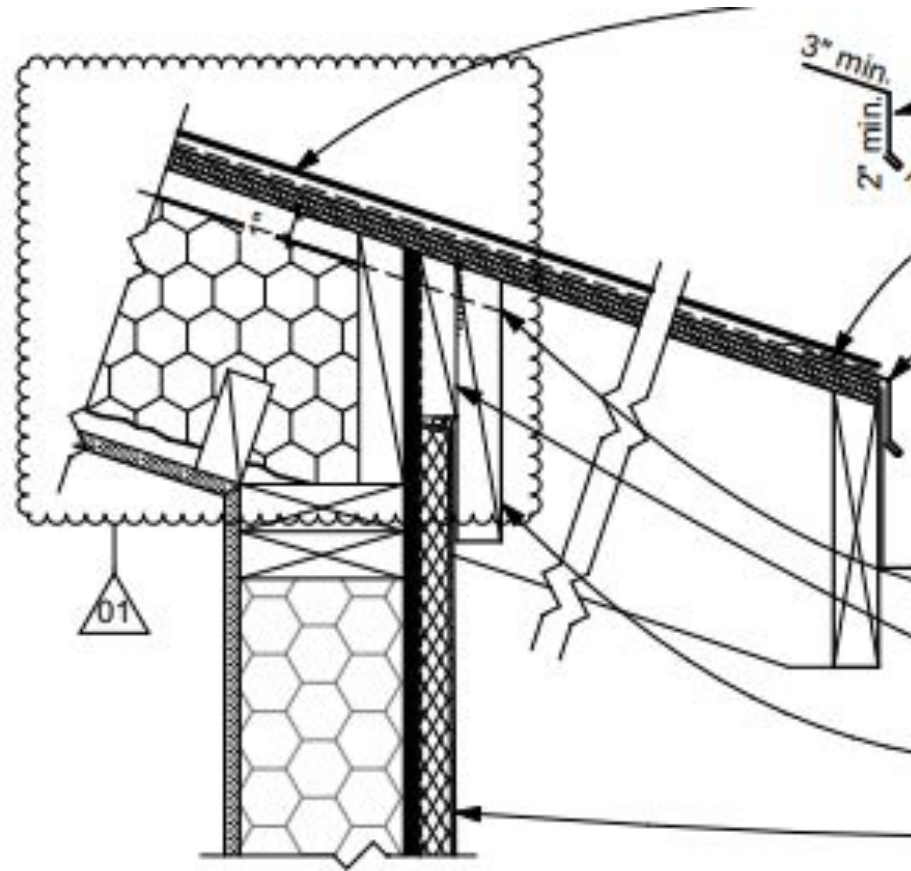
C2
A-4

Wall Types

W-1 1" exterior insulation finish system (EIFS) over water-resistant barrier over sheathing per Structural Drawings over 2x6 studs at 16" o.c. with double top plate and pressure-treated sill plate; R-21 high-density spray foam insulation; 1/2" gypsum wall board at interior, taped, textured, and painted. Interior board to be 1/2" water resistant gypsum wall board at Bath and Kitchen. Attach sill plate to concrete slab/foundation per structural drawings. Verify and coordinate EIFS detailing and attachment with EIFS manufacturer's specifications and details. Notify Architect of any discrepancies between the architectural details and the EIFS manufacturer's details. EIFS finished texture and color to match existing house.

W-2 2x4 studs at 16" o.c. with double top plate and pressure-treated sill plate; 1/2" gypsum wall board each side, taped, textured, and painted. Wall board to be 1/2" water resistant gypsum wall board at Bath and 1/2" cementitious backer board at tub/shower. Attach sill plate to concrete slab/foundation per structural drawings.

Concord ADU: Permitting Improved the Efficiency!



Berkeley Garage To ADU Conversion



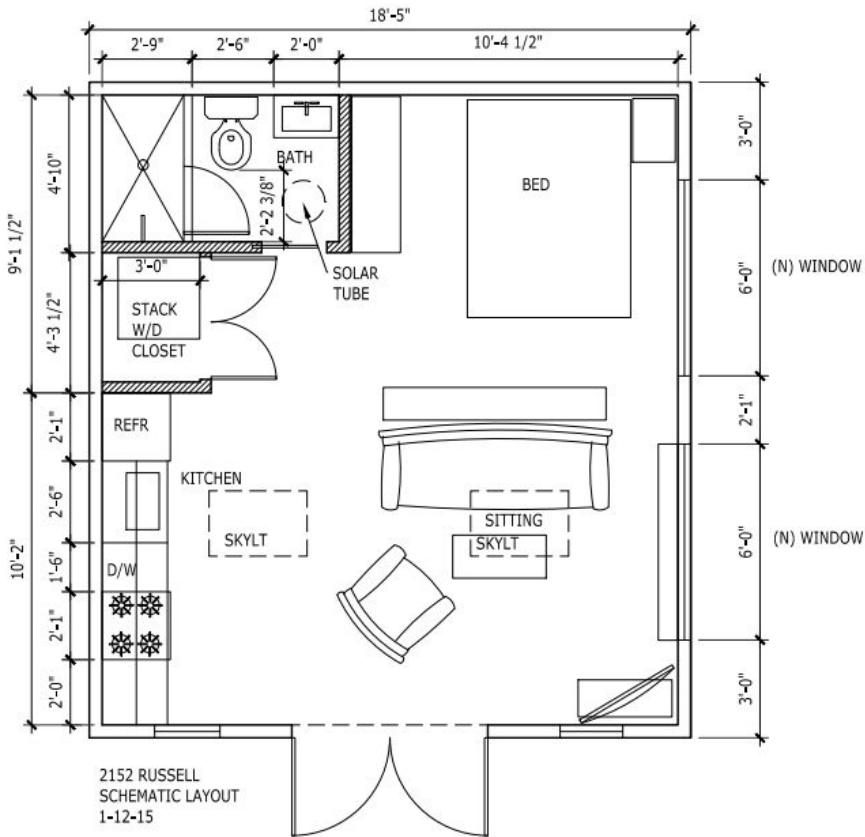
Berkeley Garage To ADU Conversion



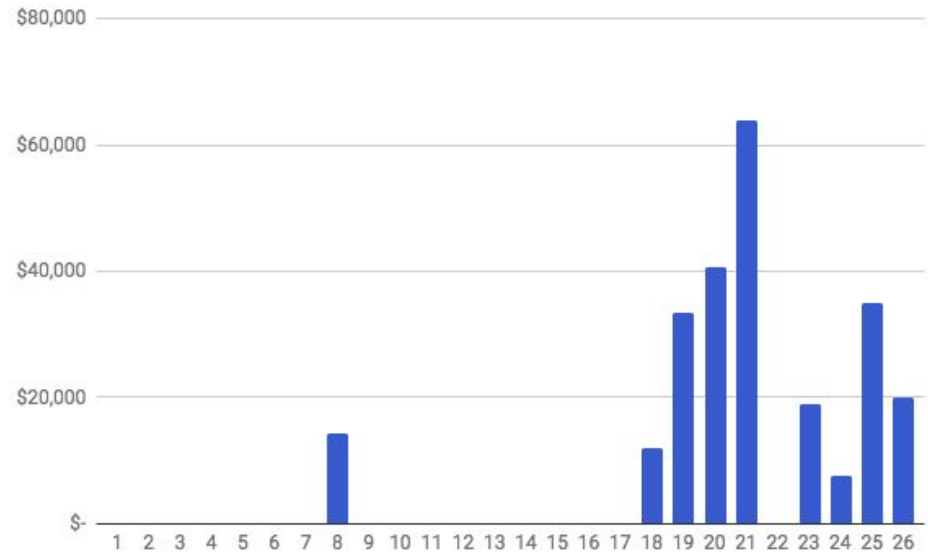
Berkeley Garage To ADU Conversion



~18' x ~20' = 375 square foot "garage remodel"



Spend Per Month
18 months design & 9 months building



Berkeley Garage To ADU Conversion



Permits required we preserve “shell” (including thermal bridging and dry-rot)
Remove too much framing and the job gets shut down! Causing \$10,000+ in time and fees, a 6 month delay, unhappy client and a terrible Yelp review.
How to help: Give the contractor something in writing saying they can remove old wood



Berkeley Garage To ADU Conversion

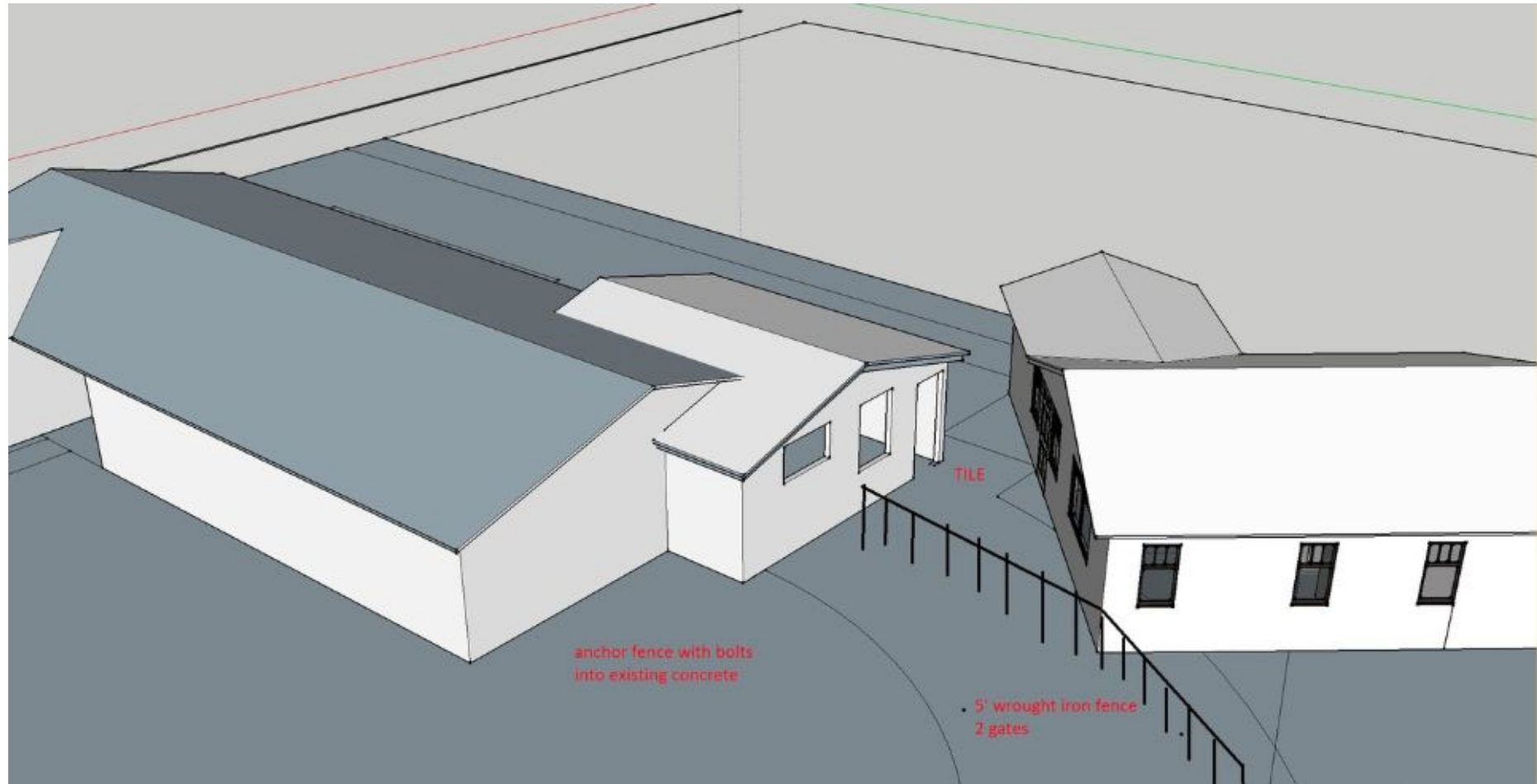




Berkeley Garage To ADU Conversion Lessons

- Batt insulation “calcs” close to The Bay. Rockwool/mineral wool for 1 hour plus added R value.
- Heat pumps eliminate gas line and furnaces. It is a struggle to compete with the furnace salespeople
- We can run hot and cold water from the main home too then put in a more efficient water heater in the main home. Win-win!
- “A lot of guys are not sealing sill plates and electrical outlets.”

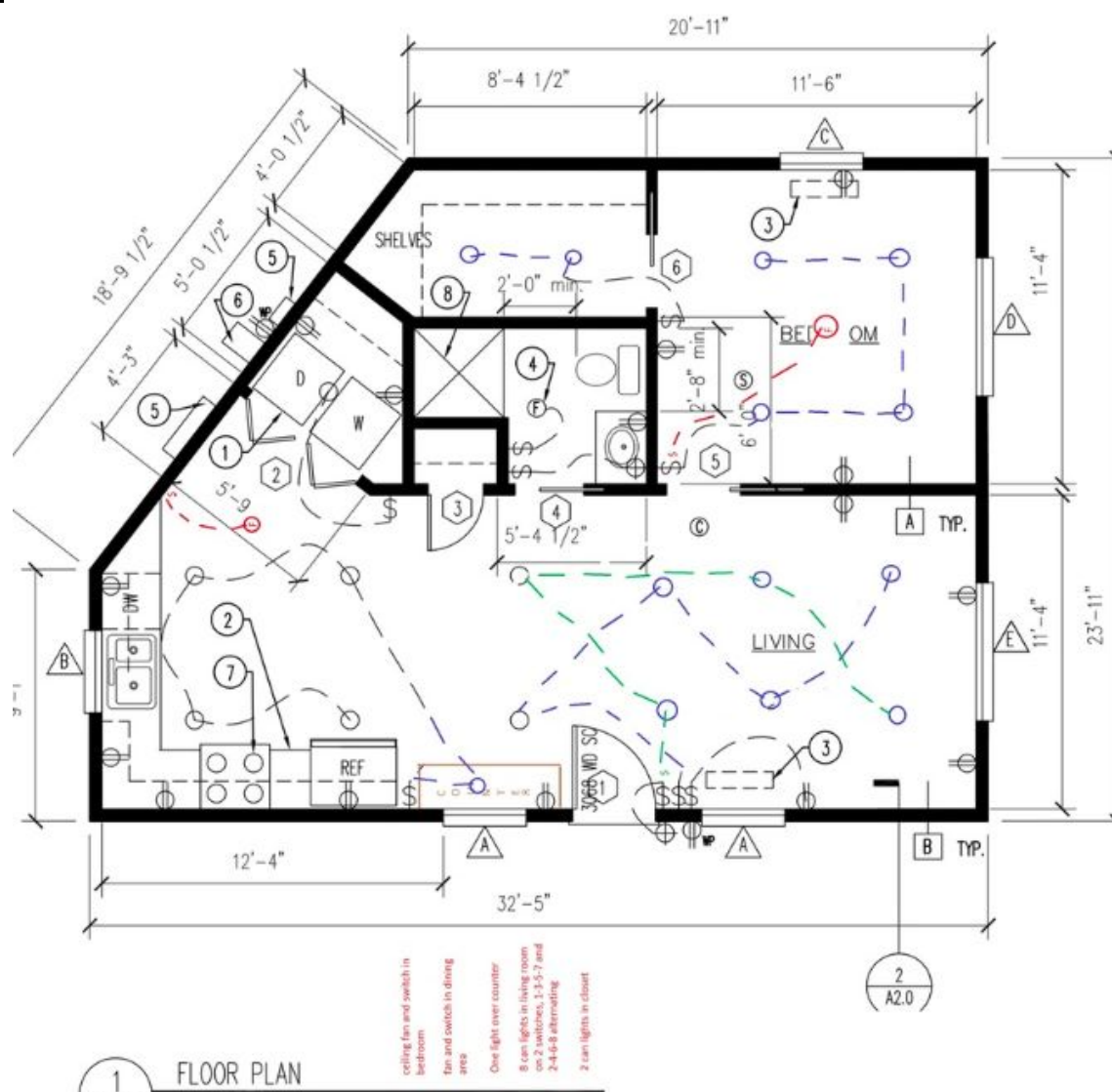
San Jose Net Zero ADU- Owner Concept





San Jose Net Zero ADU: Reality with Setbacks

- <600 sq ft is a comfortable one bedroom





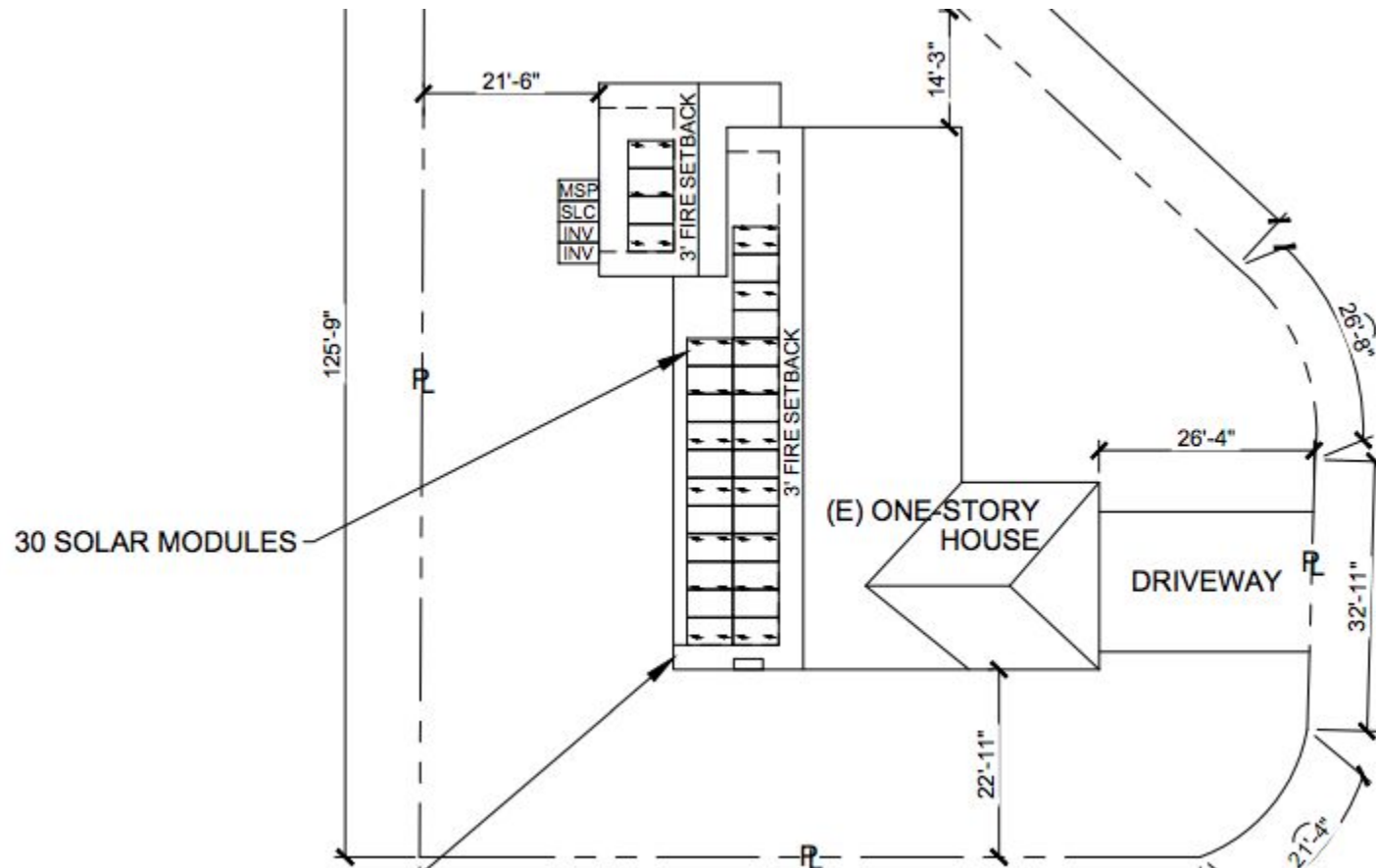
“I feel very connected to my solar panels.”

“I think I love them the most of anything else in my house. I don't want their effort to be wasted.

It wasn't until I got solar that I really started to care about efficiency. It made me feel like the electricity I was generating was *MINE* and I didn't want to waste it”



San Jose Net Zero ADU: Solar Fits On The Main Home



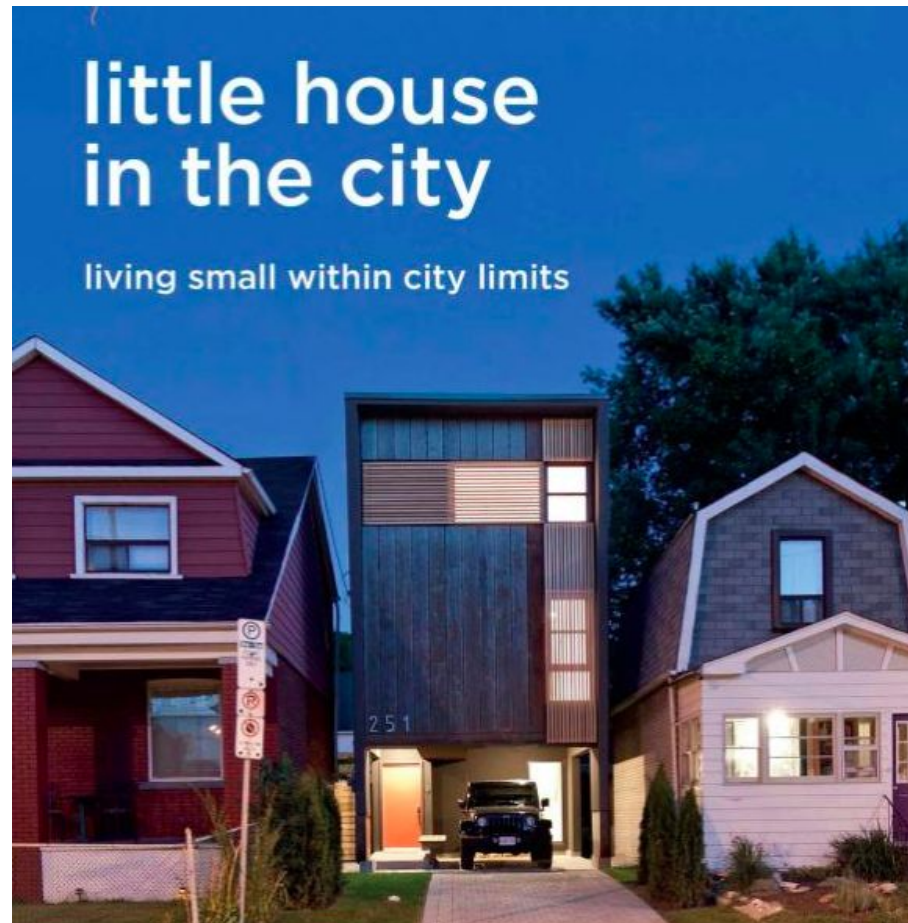
We are branching off 4KW for the ADU from the 11KW system on the main house roof.

San Jose Private Sub-Metering



- “The main house sits perfectly for solar, and with the ADU extra power needs, sunseting of the direct tax credits, it was now or never.
- PRIVATE sub meter which will measure ADU usage, which is broken down out of the total on a per KWh basis, for cost splitting.”
- Flat rate .23/KWh in lease. I can generate at about .10/KWh so the tenants get a fixed tier, pays me back in about 4.5 years or so. If you count depreciation expenses, maybe 3.5 years....

Just Out: Little House in the City Features ADUs.



Little House in the City: Living Small within City Limits

2018

by [Marc Vassallo](#) (Author)