

Cedric Pitot de La Beaujardiere

CED's Eco Designs - Portfolio

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Stelling Kitchen Remodel

Design: 2018

Build: 2019



Above: View from living room before remodel

Below: Final design



Above: View into kitchen before remodel

Below: Original layout



Features:

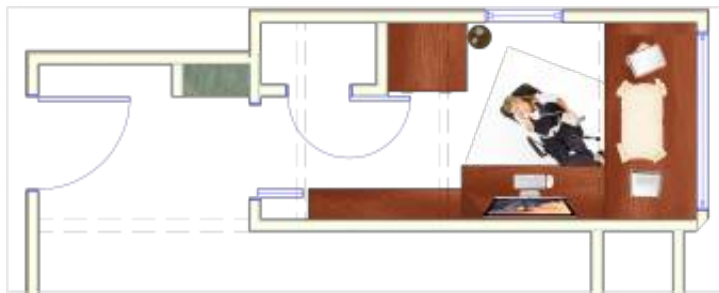
- Large fireplace removal expands and opens kitchen
- Left wall extension gives four more feet of cabinets
- White cabinets easy to maintain for rental
- Double pane floor-to-ceiling windows
- Fully functional bar counter
- Expand and add skylights
- Wood floors throughout

Josina Remodel

Office, Entry & Living Room



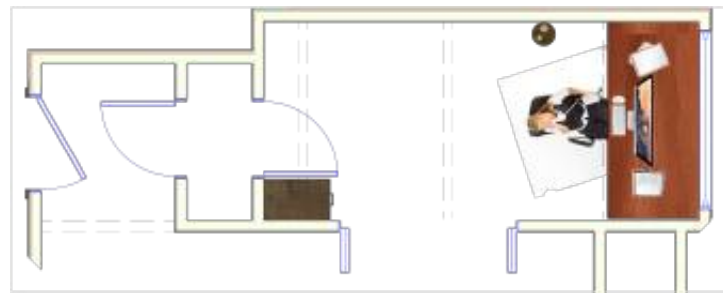
↔ Final Design and As Built ↔



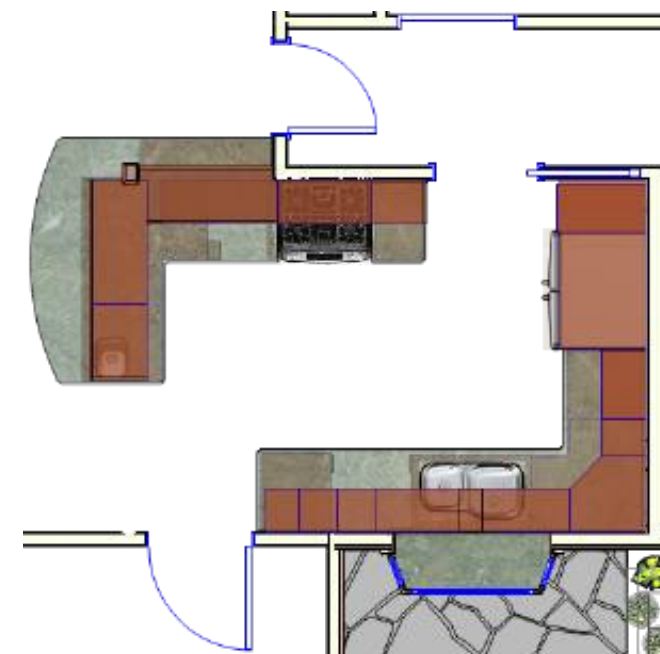
Final Design Features:

- Entryway opened up
- More living room wall space
- More office privacy from living room
- More office workspace
- More light by new window & office door with lites
- Plenty of filling, storage and book space in office

↔ Original Conditions ↔



Kitchen & Dining Room



Original Conditions:

- Bookshelf blocked view to kitchen
- Low cabinets prevented eye contact across bar
- Old warping cabinets, mismatched counters
- Linoleum Floor

Final Design Features:

- Opened up kitchen corner to dining & living rooms
- Raised the cabinets above bar to enable eye contact
- Sustainable and beautiful cherry cabinets
- Carried wood floor pattern into kitchen
- Garden Window of cherry, for herbs and plants
- Cool Roof reduced summer solar gain
- Added wall insulation

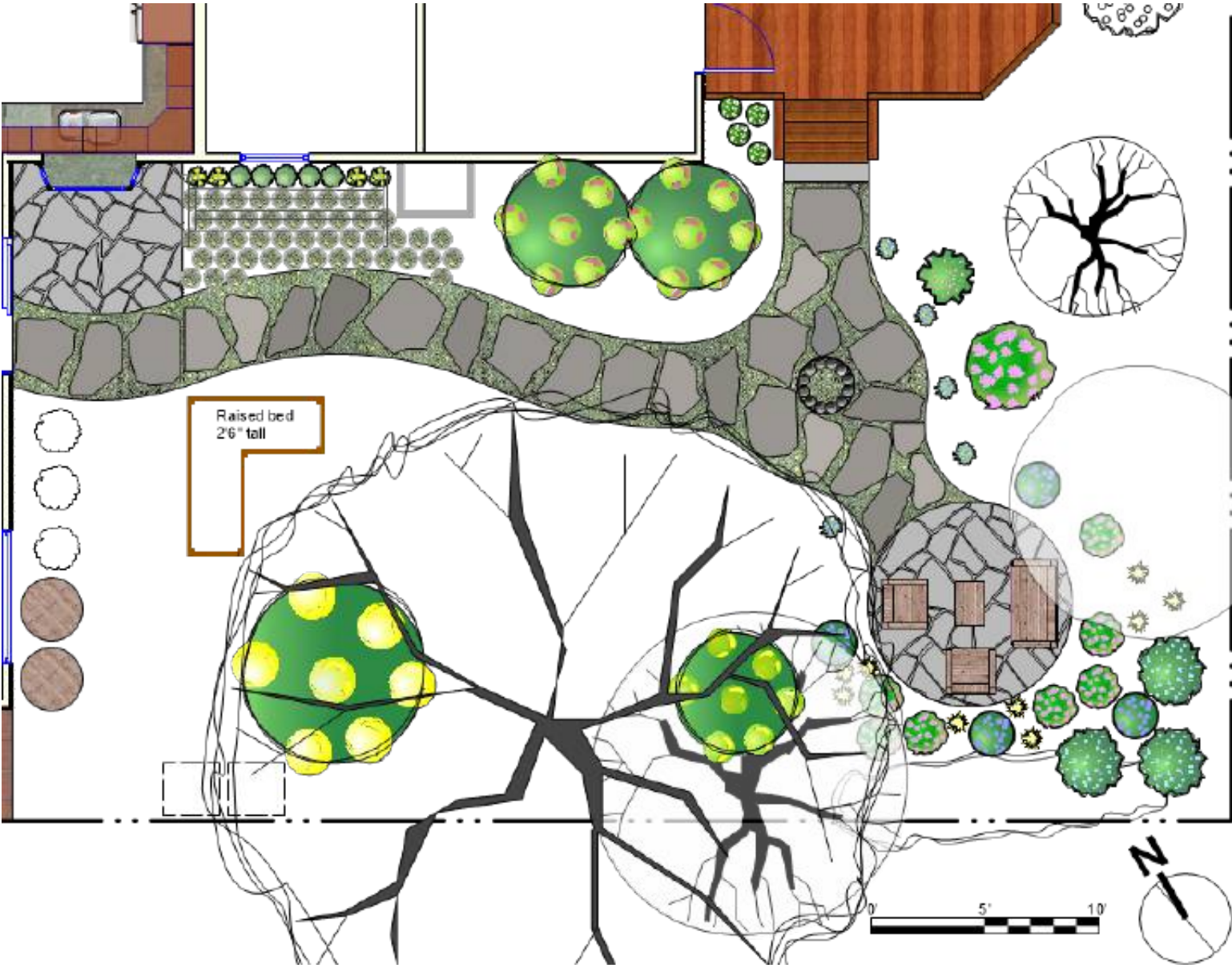
Josina Relandscape



Photos After Landscape Install



Photos Original Conditions



Features

- Created seating area in South corner of garden
- Honored prayer circle at the center where three paths meet
- Replaced old pink-stained concrete pavers with flagstone
- Planted hardy, low-water dymondia between flagstones
- All other plants edible and/or native

Credits

- *Hardscape:* CED's Eco Designs
- *Softscape:* Sage Creek Horticulture
- *Installation:* 1 Earth Landscaping

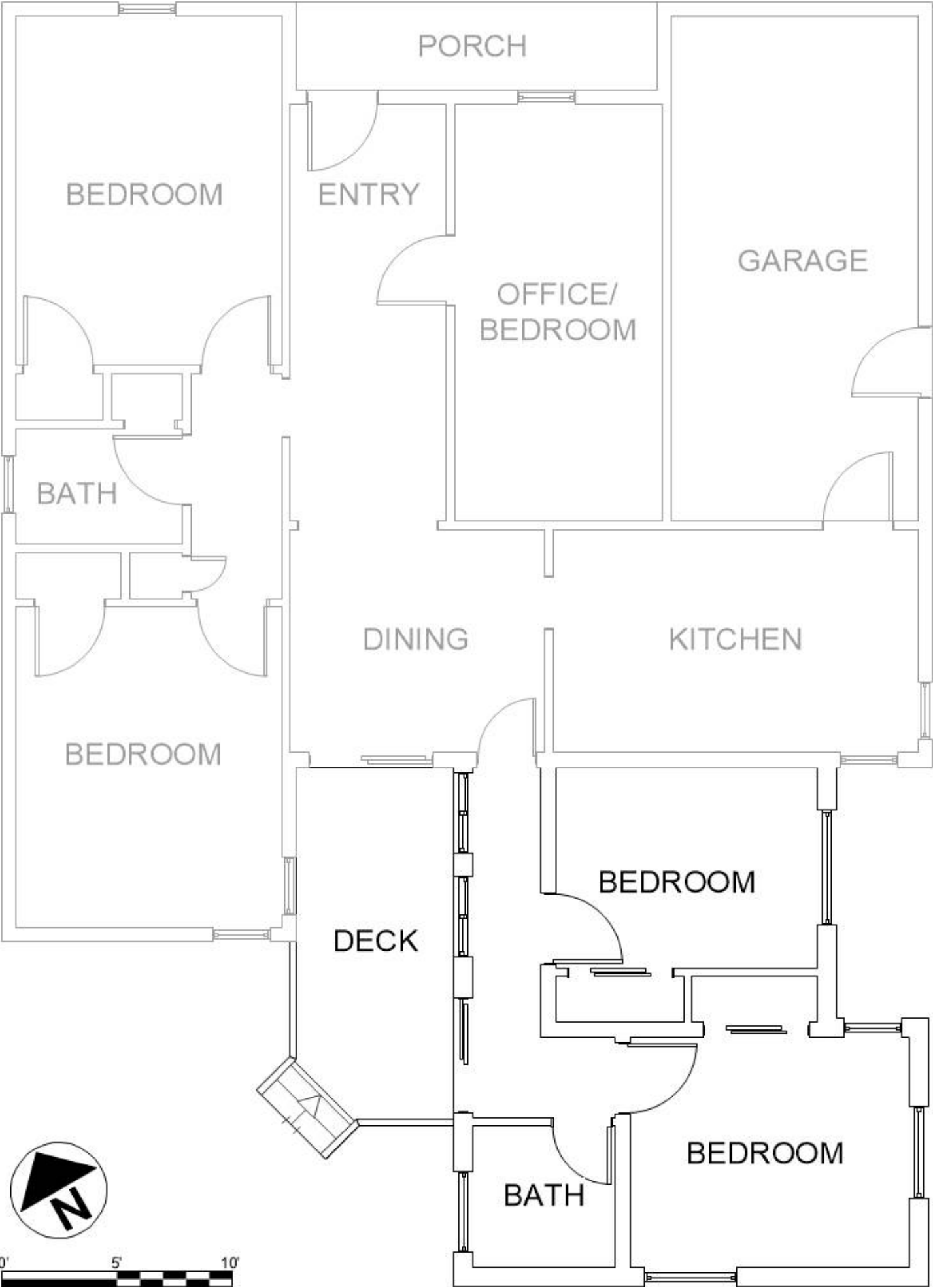
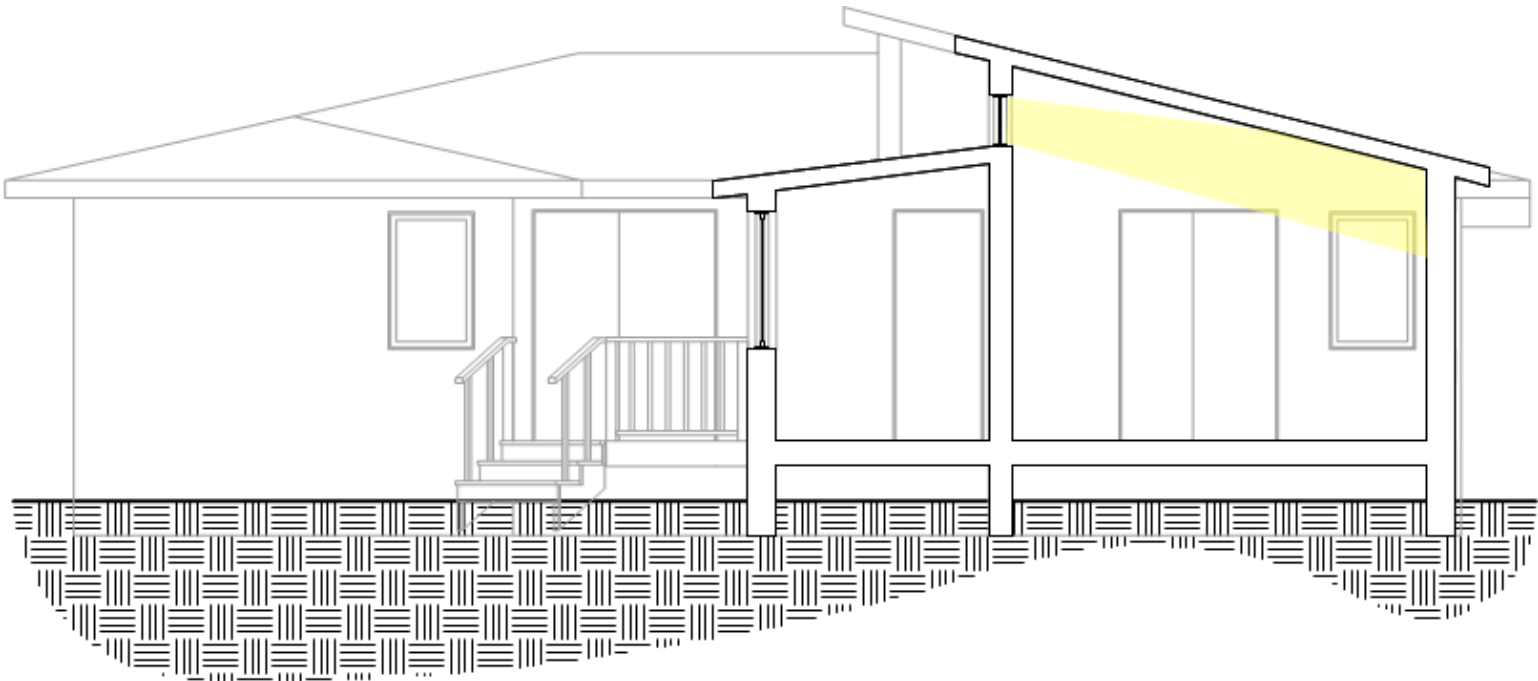
Spring Street Addition

A large family in a small house sought to add a bedroom and full bath



Features:

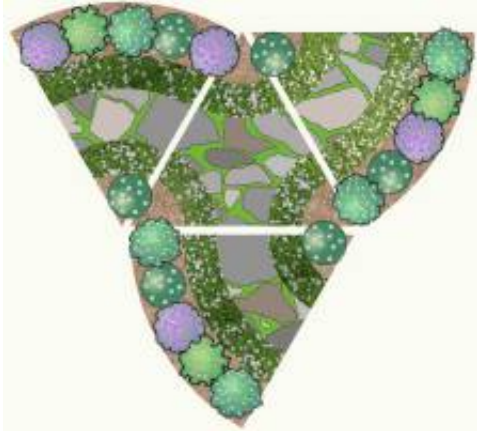
- Two smaller bedrooms rather than one large bedroom, which the family liked as it would provide more privacy, given that so many people were crowded into every existing room.
- A hallway, daylit by windows and a glass sliding door, adjoins the existing house by a new door in the dining room and gives access to the new bedrooms and bath.
- A deck in the nook of the building is accessed by sliding glass doors from the dining room and the hallway. The deck unifies the addition to the existing house and consolidates stairs.
- Clerestory windows let in more light to the bedrooms.



Sage Creek Horticulture

Sage Creek Horticulture (SCH) focuses on creating native, low water, restorative landscape designs. I've provided myriad services such as drafting, creating 2D and 3D design elements, graphics for the plans and for the website, website building, and IT support. Here are three of many projects I've done with SCH.

Garden Path Tiles



Modular triangular tiles containing a 3' wide flagstone path bordered on each side by 2' of ground cover and 3' of shrub areas.



These tiles can be connected in various patterns, like this fountain focal point at the meeting of four paths. Benches backed to bushes on four sides provide for peaceful contemplation or conversation, soothed by the sounds of nature.

3D Benches and Fire Pit

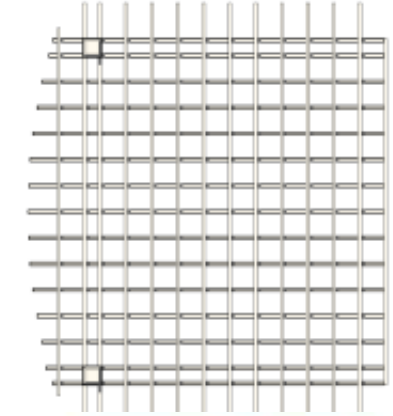
A client wanted benches around a firepit within an existing curved retaining wall. Taking inspiration from our own deck's comfortable bench, I measured our bench's angles and dimensions and modeled a semi-circular version in 3D around a firepit.



Balcony with Shade Trellis



Upper Deck Elevation View looking North



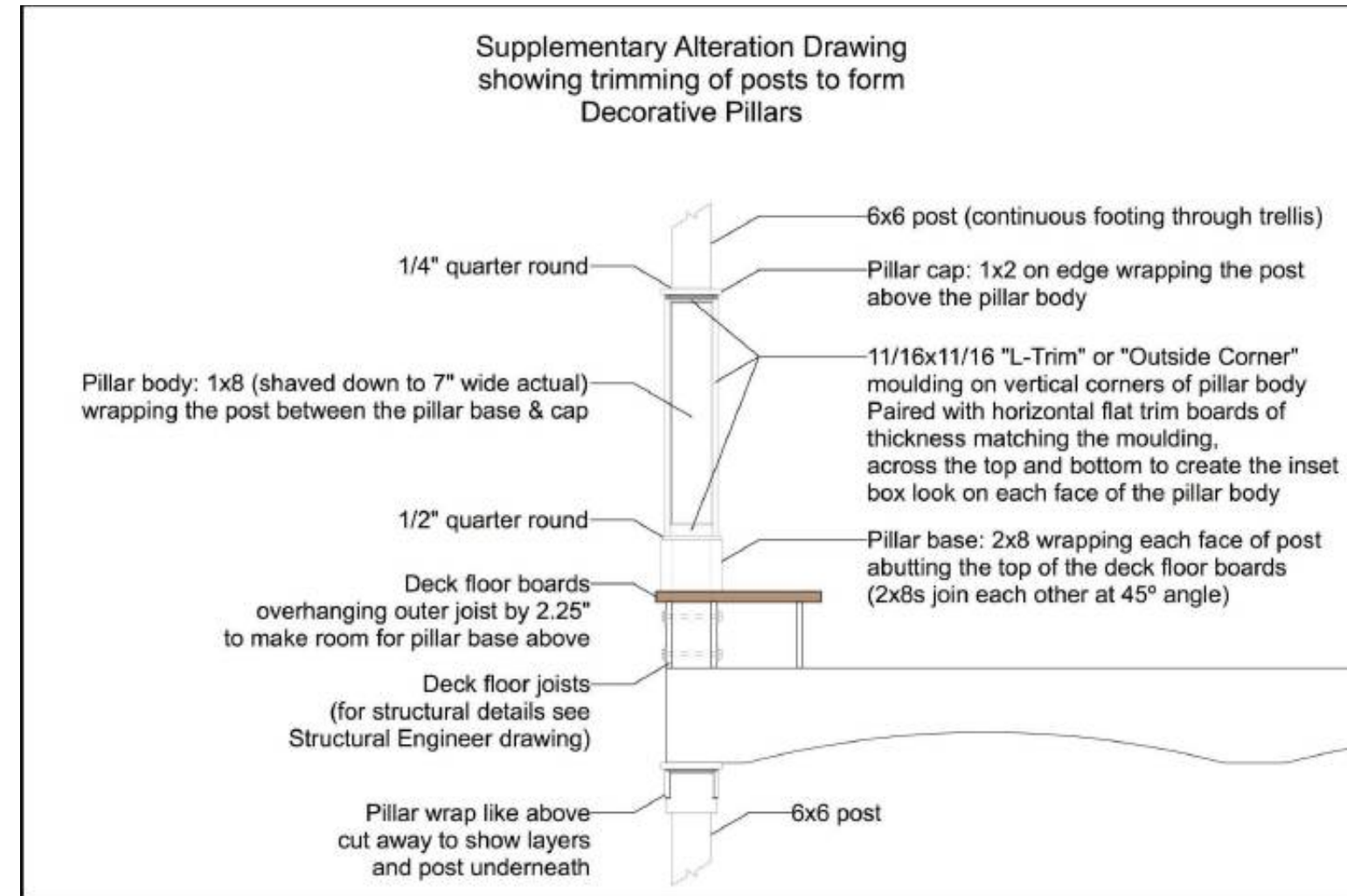
Deck Plan View Trellis Level



Deck Plan View 2nd Story Level

A client was doing a full re-landscape front and back and wanted to rebuild their old second-story balcony. We found a photo of a balcony topped by a trellis like the client's existing trellis. The client liked this design so I recreated a similar version complete with the trellis structure, posts and railings.

Construction detailing of balcony structure and post trimming



Energy

Recommendations

Total annual savings:
\$664

Review My Options

Weatherization ⓘ

Duct System ⓘ

Heating & Cooling ⓘ

- Air Conditioner, 16 SEER
Estimated Costs: \$6,126
Estimated Savings: **\$482**
- Air Conditioner, 20 SEER
Estimated Costs: \$7,581
Estimated Savings: **\$538**
- Furnace, 97% efficient
Estimated Costs: \$5,393
Estimated Savings: **\$18**
- Furnace, 96% efficient
Estimated Costs: \$4,511
Estimated Savings: **\$13**

Water Heating ⓘ

Pool ⓘ

Building Performance Simulation

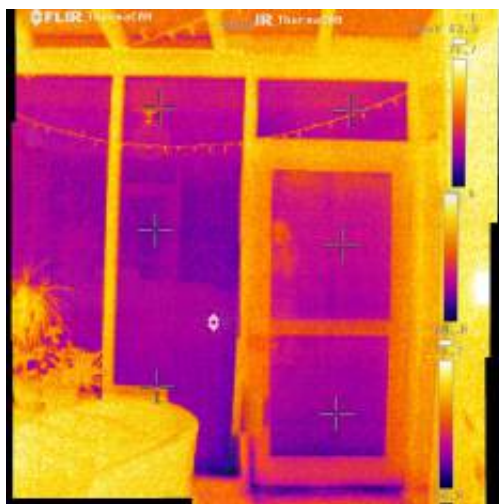
As a software engineer with **SolarCity**, I worked on a web service which simulated building energy usage.

Our technicians would visit a client's home and input information about the house and the home-owners' behaviors and preferences into our web form. Our service would package this info and load it into **EnergyPlus** to simulate the building's annual energy usage. Both the existing conditions and potential efficiency upgrades were simulated. Our clients were then informed which measures would save the most energy and money, and were offered a bid to install them.

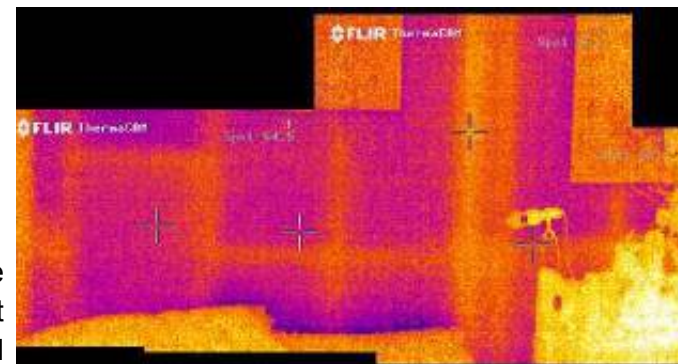
Building Science: Heat Loss

For a Building Science class at UC Berkeley's College of Environmental Design, I studied heat loss using InfraRed.

Cold air is leaking under the door.



Wall studs clearly visible indicate the walls are not insulated

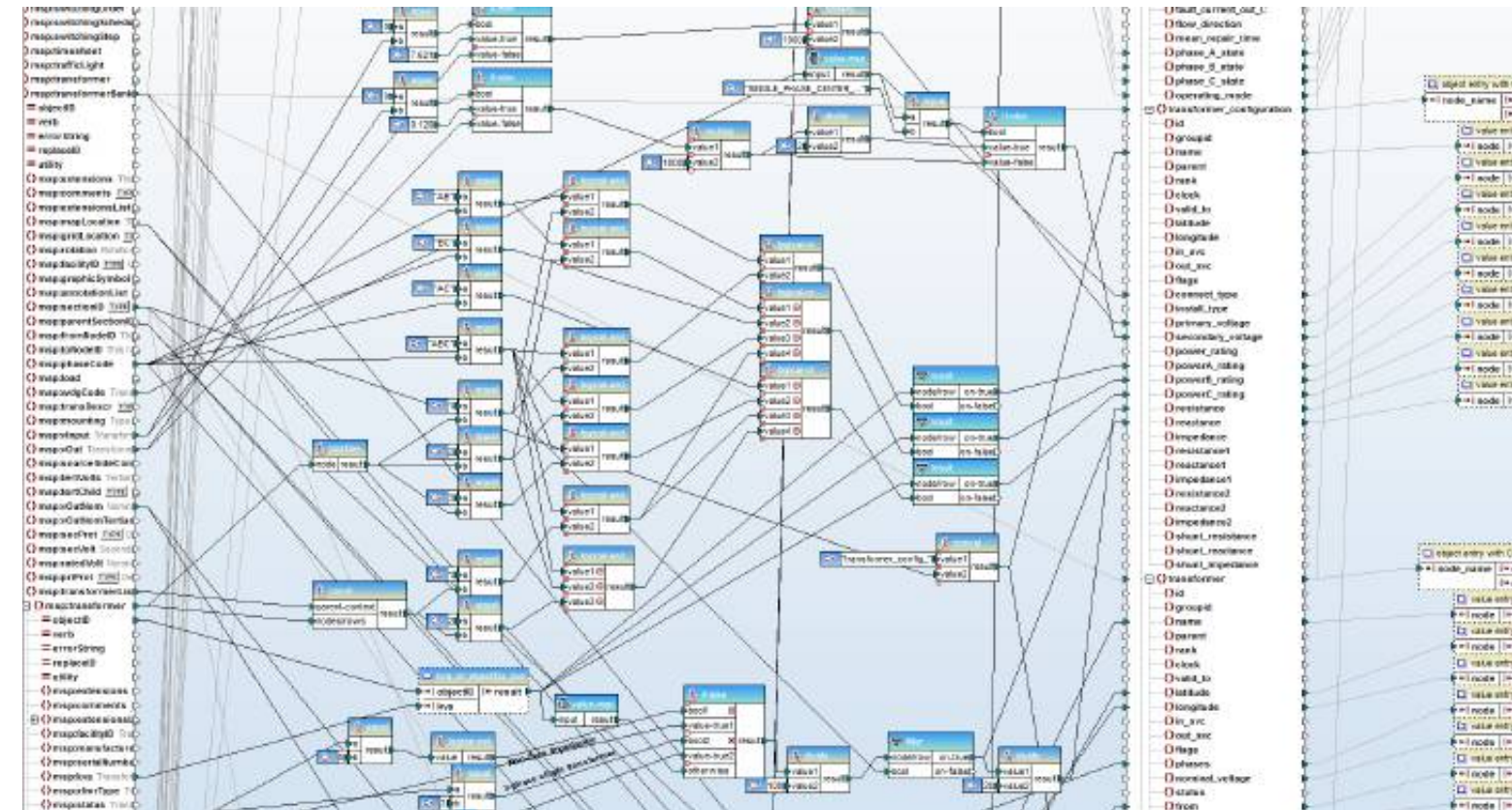


A collage of IR photos taken around the front door shows heat escaping from the crawl space vents, indicating the likelihood of leaky ducts.



Electric Grid Simulations & Mapping

CLEAN Coalition, a local non-profit, sought my help to run electrical grid simulations.



Map Force, like **GrassHopper** and **Marionette**, is a graphical programming tool. Above is a small slice of a large network I created to convert files representing Puerto Rico's electrical grid into a format supported by **GridLAB-D** to simulate the grid's performance. The simulation results were huge spreadsheets of numbers which were hard to comprehend, so I wrote a program to convert the results into a dynamic **Google Earth** map. Movies of mapped simulation outputs are a more accessible way to evaluate the results of each run.

A screenshot of my Google Earth movie



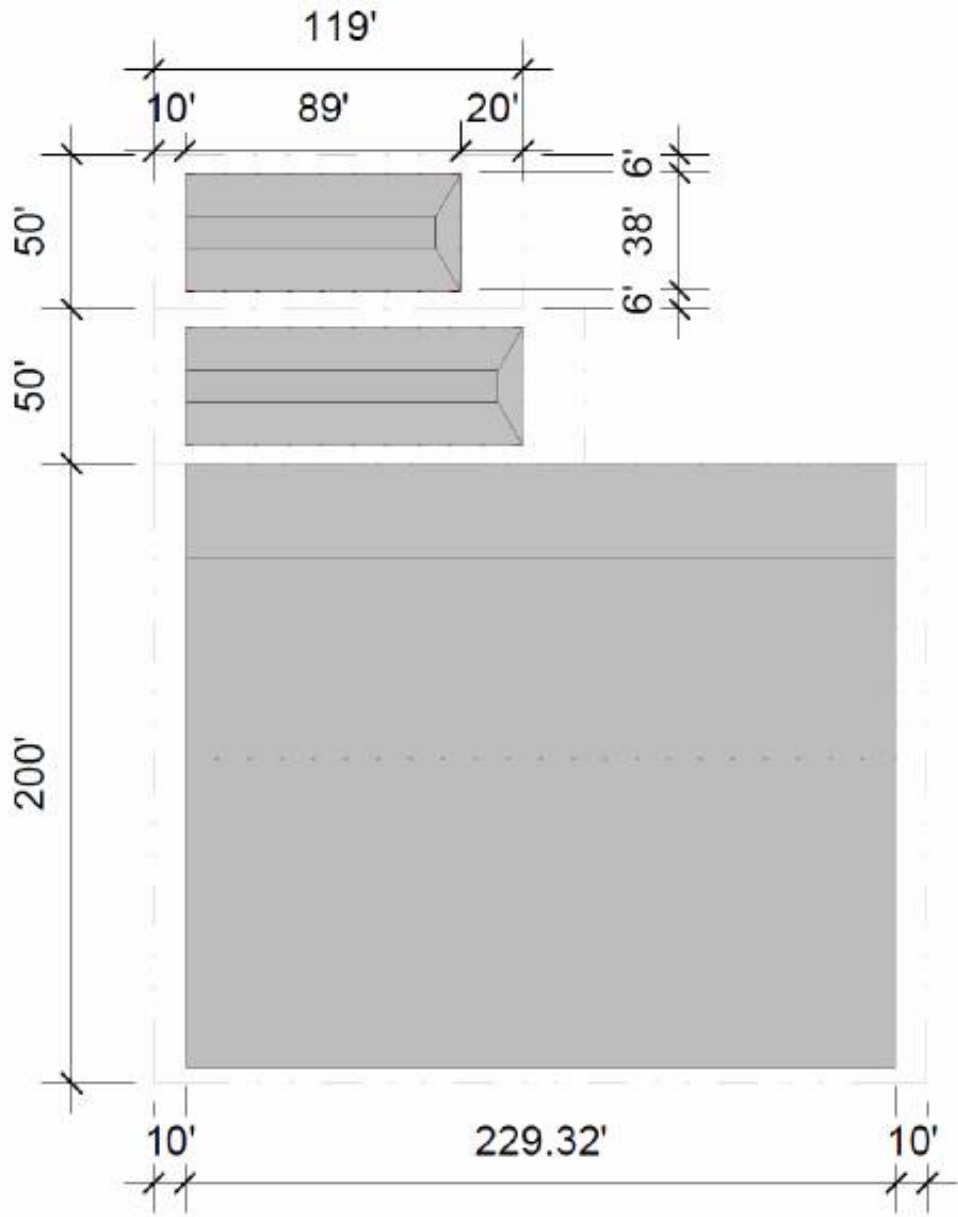
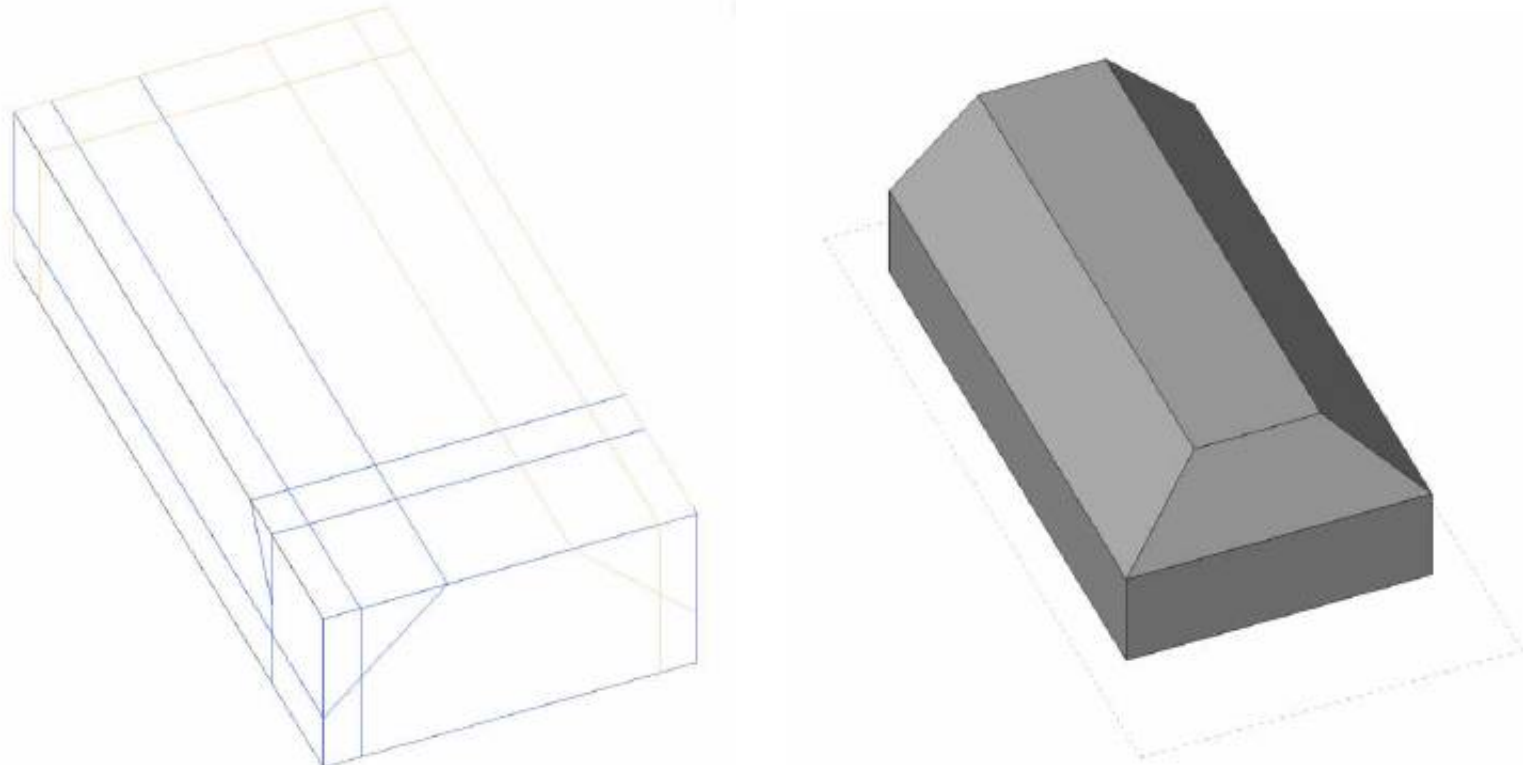
NVCAP Massing Study

For the final project of my Revit class I did a Massing Study of the City of Palo Alto's North Ventura Coordinated Area Plan (NVCAP), a city project of interest to me.

To facilitate the massing study of the NVCAP site, I used Revit's modeling tools and created a set of Revit Families. These Families could be positioned on the (mostly) rectangular parcels and would generate lot and setback lines, and a mass to represent the permitted building envelope. Type and instance parameters are available to calculate or specify the dimensions, the set backs and the daylight plane angles, initial height, and starting locations, and the maximum allowable building height.

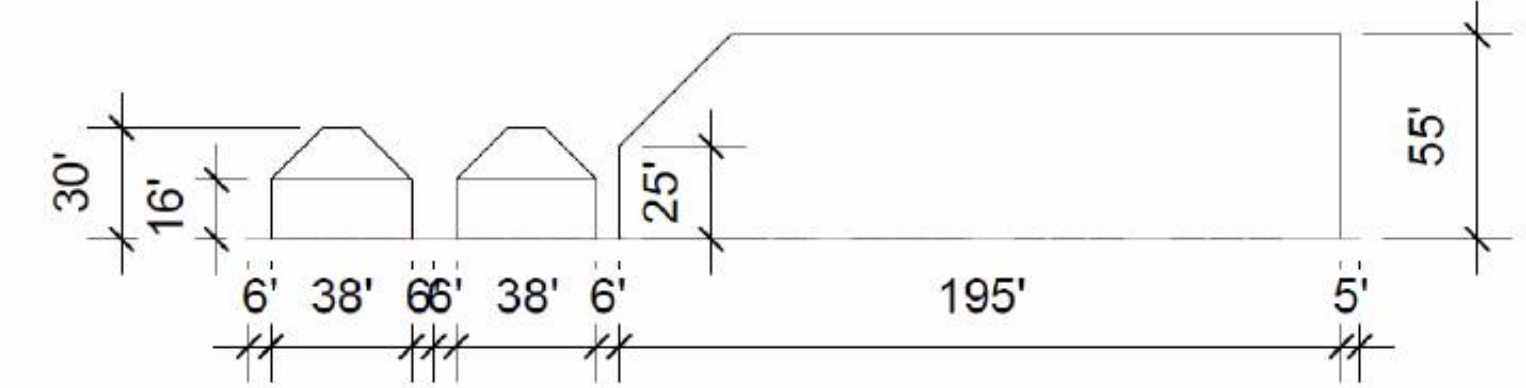
From these parameters, a rectangular solid is generated to cover the entire lot up to the Maximum Height. Then rectangular voids spanning the full height are set to cut the setbacks on each side, and triangular voids cut the daylight planes. The result is a house-shaped mass which represents the maximum building envelope.

Below Left, rectangular setback and triangular daylight planes are highlighted, which are used to cut the building cube to block out the areas where building is (mostly) not permitted. Below Right, a finished "gem" represents the maximum building envelope.



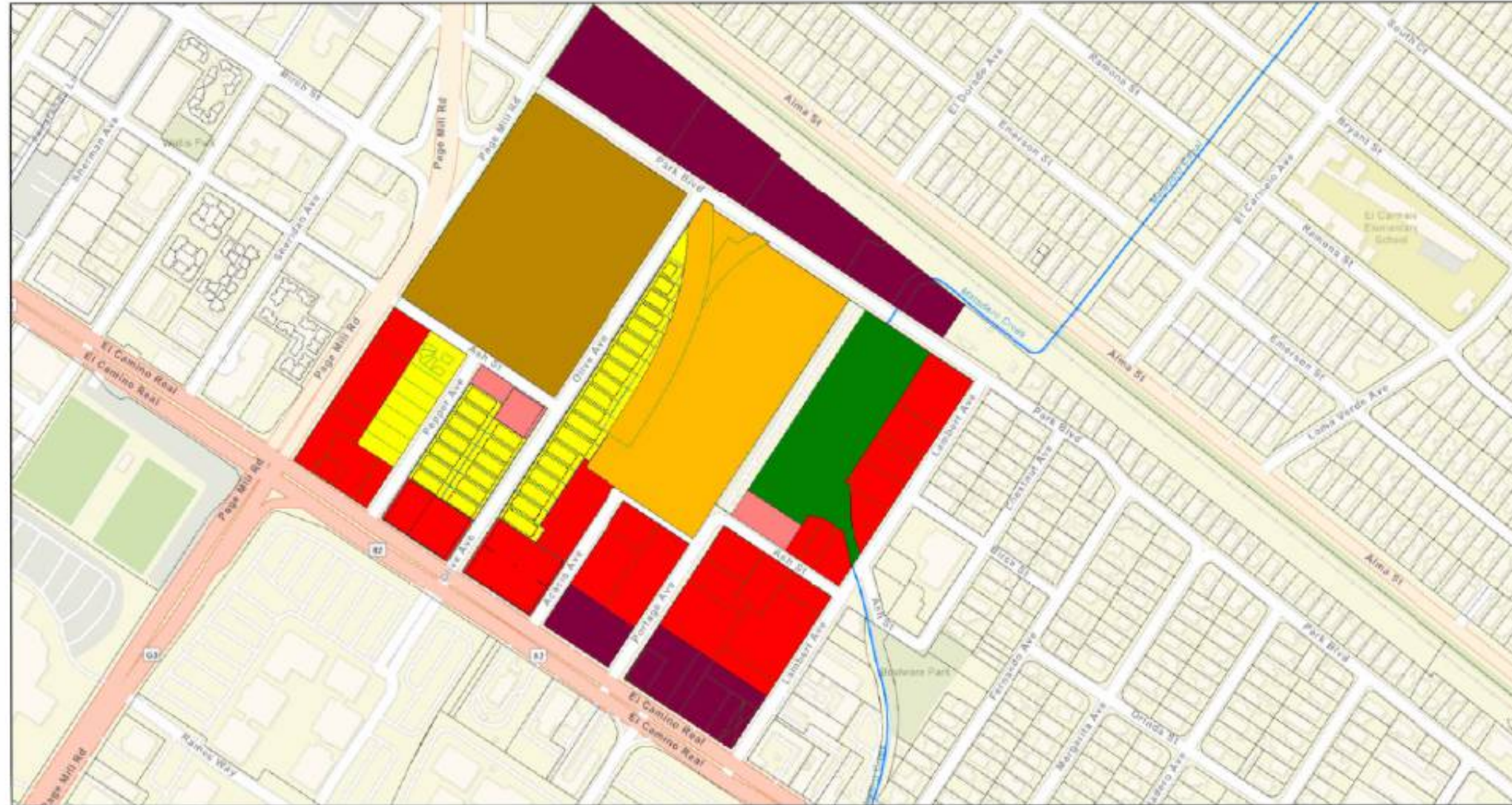
"Gems" representing the maximum buildable envelope of two Single Family (R2) homes and a comparatively large Medium Density Mixed Use (MXM) are shown side by side in Plan and Elevation.

① Dimension Detail of 2 R2s and large MXM - Plan View



② Dimension Detail of 2 R2s and large MXM - Elevation

NVCAP.SCC.InteractivePropertyAssessment



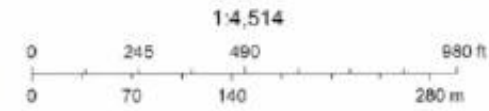
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- County Boundary
- Parcels (Visible at 0.4 miles)
- Creeks (SCVWD)

- NV-R1 and NV-R2 - Low-Density Residential (1 or 2 Dwelling Units per Lot)
- NV-R3 - Medium-Density Residential (16-30 Dwelling Units per Acre)
- NV-R4 - High-Density Residential (81-100 Dwelling Units per Acre)

NVCAP Zoning Designations

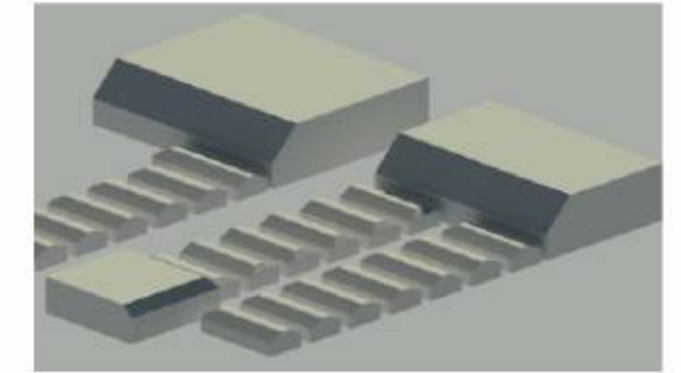
- NV-MXL - Low-Density Mixed Use (3 - 17 Dwelling Units per Acre)
- NV-MXM - Medium-Density Mixed Use (31-70 Dwelling Units per Acre)
- NV-MXH - High-Density Mixed-Use (81-100 Dwelling Units per Acre)
- NV-PF - Parks and Facilities (81-100 DU/AC for 100% affordable housing)



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Santa Clara County

① Site Context View and Zoning Legend
1" = 400'-0"



Render of building envelopes showing homes dwarfed by medium-density mixed use (MXM). Massing represents setbacks and daylight planes but does not include max allowed site coverage, max FAR, facade modulations and stepbacks, nor required open space and landscape screening. Max heights are 55' for MXM, 35' for MXL, and 30' for R1& R2. 100% affordable housing projects could be 33' taller and could violate daylight plane to achieve density bonus.

Sheet List	
Sheet Number	Sheet Name
Cover	Site, Zoning, Render, Index
A201	Dimensioning Building Envelopes
PQ501	Family matters explained
PQ502	Parameters used in Families

CED's Ecological Designs

www.CEDsEcoDesigns.com

City of Palo Alto
NVCAP Massing Study

No.	Description	Date

Site, Zoning, Render, Index		
Project number	Project Number	Cover
Date	Issue Date	
Drawn by	Author	
Checked by	Checker	
		Scale As indicated

Garden Apartments

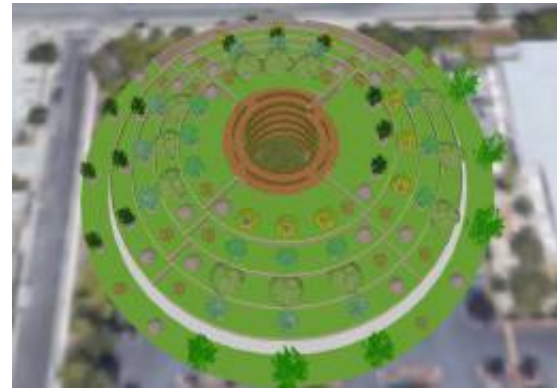
for North Ventura Coordinated Area Plan

I've long been interested in a building form I call Garden Apartments, in which every residential unit of a multi-story apartment building has access to garden space through planted rooftops and balconies. Using **SketchUp**, I modeled four building forms, combined some into larger connected structures with elevators and walkways, and placed these buildings in the NVCAP area, respecting existing property lines. This idea is treated in more depth at <https://sites.google.com/view/ventura-vision>

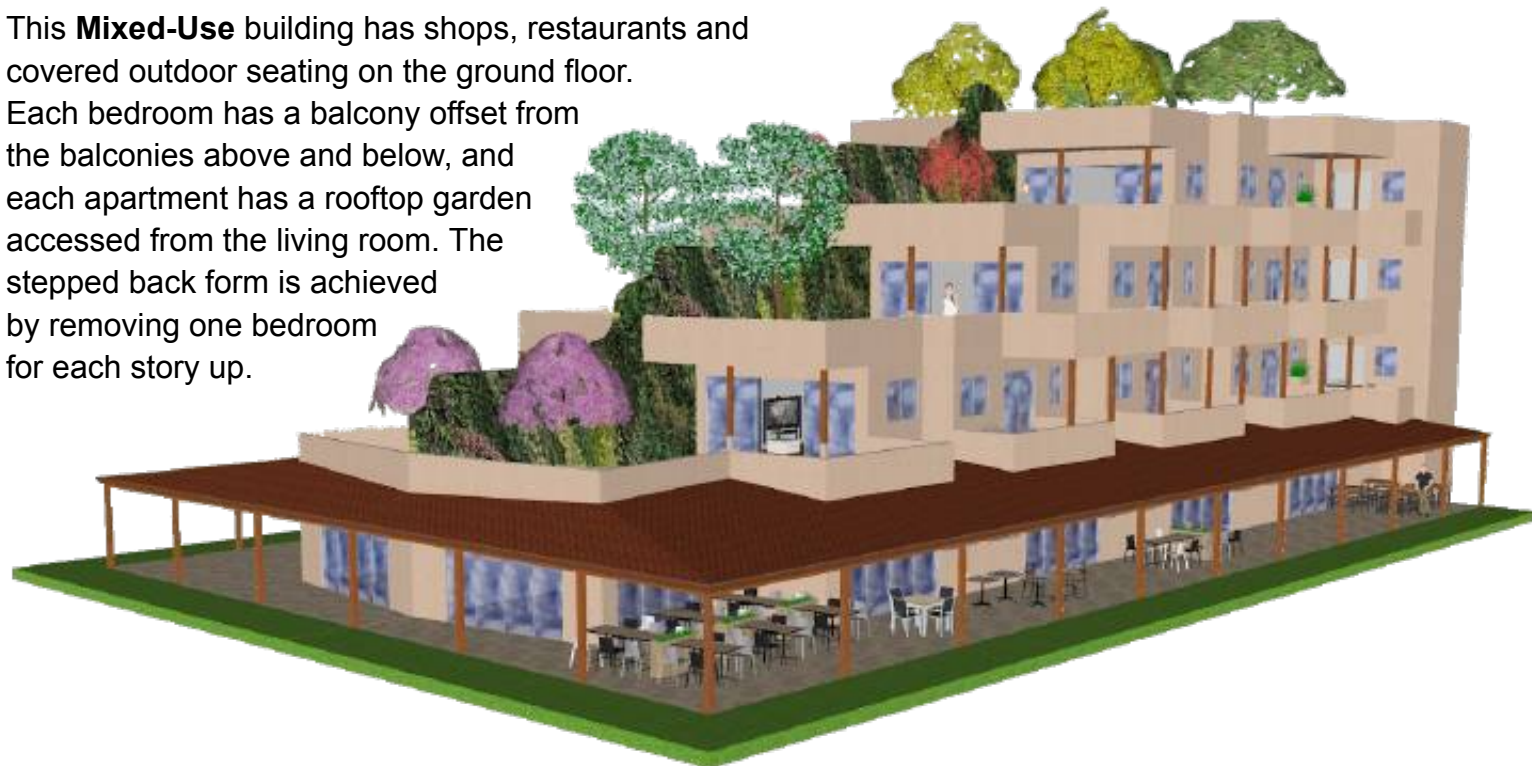


A circular ADA-accessible ramp, rising 10' each turn, would have a 46' inner diameter and could fit a tree in its center.

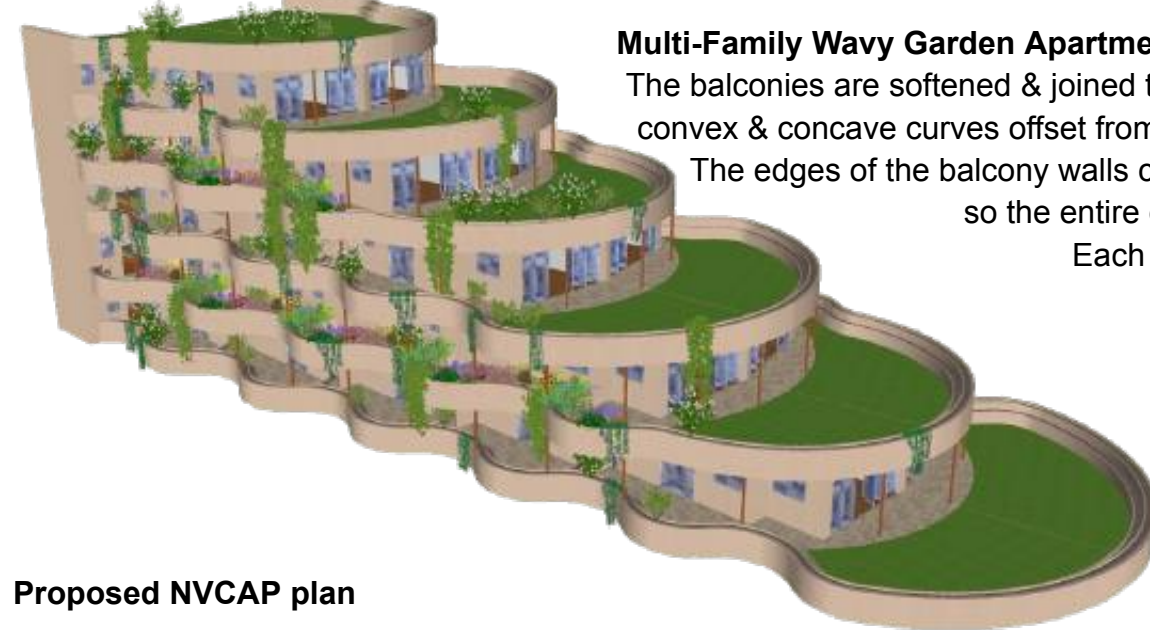
The **Spiral Coil** was built around such a spiralling ramp. On each quarter turn the elevation goes up 2.5', so a full turn rises 10' to the next level up.



This **Mixed-Use** building has shops, restaurants and covered outdoor seating on the ground floor. Each bedroom has a balcony offset from the balconies above and below, and each apartment has a rooftop garden accessed from the living room. The stepped back form is achieved by removing one bedroom for each story up.



Multi-Family Wavy Garden Apartment with Perimeter Planters
The balconies are softened & joined together in a wavy pattern of convex & concave curves offset from the curves above or below. The edges of the balcony walls contain two levels of planters so the entire exterior can be full of plants. Each bedroom has a balcony and full ADA-accessible bath.



Proposed NVCAP plan

