

DESIGN OPERA
ARCHITECTS

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1.0 INTRODUCTION



1.1 DESIGN OPERA ARCHITECTS

At Design Opera, we recognize that a home is much more than a structure—it's a place of memory, comfort, and identity. In the face of devastating loss with the recent fires, our team extends heartfelt sympathy and unwavering support. We are here to help not only rebuild, but reimagine a new space that reflects personal lifestyle and provides the grounding and beauty needed to move forward.

Founded in 2008, Design Opera is a collaborative architecture and design firm based in Los Angeles, California. Our work focuses on the integration of progressive and traditional elements, blending timeless design with contemporary needs. Through a thoughtful and iterative process of research, development, and storytelling, we craft environments that are not only aesthetically compelling, but emotionally resonant.

Our portfolio spans residential, hospitality, and commercial projects across California and beyond, each rooted in sensitivity to site, culture, and climate. We approach every project as an “opera” of coordination—where the best outcomes emerge from collaboration, artistry, and precision.

Among its many national recognitions, Design Opera was most recently honored with:

- Honor Award, AIA|LA Residential Architecture Awards (2022)
- Honorable Mention, FRAME Magazine Awards (2022)
- Honor & Merit Awards, AIA|LA Restaurant Design Awards (2021)

Our work has been featured in national publications such as O (The Oprah Magazine), LUXE Magazine, Design Bureau, ARCHITECT Magazine, and Dream Homes San Diego.

Led by Gregory De Peña, AIA, Design Opera is supported by a dedicated Los Angeles based team, Ema Bakalova, Bende Ducsay, and Stephanie Tilley; alongside project collaborators, Architect Demetri Darnos and Interior Designer Diana Jaqueline. With more than twenty five years of experience, Greg's work is defined by a thoughtful, research-informed process and a deep commitment to environmental responsibility. His work reflects a deep interest in vernacular architecture, sustainability, and innovation—often blending advanced analysis with a sensitivity to time and place. His philosophy is rooted in creating architecture that not only responds to environmental and cultural challenges, but also enriches everyday life through clarity, connection, and enduring beauty.

We believe great architecture is a dialogue between people and place. At Design Opera, we design spaces that are timeless, personal, and alive with your story crafted with meaning, shaped by collaboration, and inspired by the lives they serve.

1.2 PROJECT NARRATIVE



The Deviant House Pacific Palisades, California

Within the Pacific Palisades, The Deviant House is the first in a series of new dwellings envisioned for the fire-stricken Alphabet Streets. The home is innovative, completely departing from its predecessors not only formally, but through the use of advanced 3D printing construction technology.

Two juxtaposed volumes gently curve across the site, connecting the two living spaces while defining and creating a series of gardens that soften the space between the home and its neighboring properties. The home is surrounded by nature, with gardens thoughtfully planted with drought tolerant and low-flammability species, providing a fluid connection between the indoors and outdoors. Designed with resilience in mind, the space embraces innovative materials and gentle forms that create a home that feels grounded yet open, alive with texture and light.

On the lower level, 3D-printed concrete walls rise in layered bands, each one a record of process and place. These walls are not merely structural; they are guardians. Non-combustible and seamless, they resist flame and time alike, absorbing heat and shielding life within. In their sculptural clarity, they hold the weight of place and the quiet strength of permanence.

Above, the architecture softens. Smooth stucco fire-rated and metal-framed walls wrap the upper floor, light and airy, where the rhythms of daily life unfold. This contrast between solid below and delicate above creates a dialogue of opposites. It reflects the dual nature of California living: rooted yet open, protective, yet free.

Within, the rooms unfurl slowly, each oriented toward the landscape. Operable windows and sliding doors welcome breezes and frame views, dissolving the boundary between inside and outside space. Daylight animates the interiors, and passive strategies quietly sustain comfort, reducing the home's reliance on mechanical systems.

Every detail speaks of intentional restraint. The printed concrete offers texture without embellishment, while subtle variations in form and depth create shadows that shift with the sun. Built-in elements emerge from the walls—niches, benches, edges—all woven seamlessly into the fabric of the structure.

In every sense, The Deviant House is a home of quiet strength and adaptable spirit. Its materials are chosen not for show, but for survival. Its form does not impose, but bends. This is architecture that listens—to the land, to the climate, to the lives that will inhabit it. It is not an act of resistance, but of deep and enduring engagement. A home not only made to withstand change—but to belong to it.



ADDRESS: 1037 N ILLIFF STREET

1.3 PARCEL INFO & DIAGRAMS

Project Name: The Deviant House

Reference Site Address:
1037 N Illiff Street

Lot Area:
6,500 SF

Zoned:
R1 - V1

Building Height:
27'-0" < 33'-0" Max Height

Stories: 2

Parking:
2 covered spaces provided

Lot Coverage:
2416.5 SF < 2,600 SF Max

Maximum RFA:
3,250 SF = 50% of lot

650 SF = 20% bonus with 25% of the length of the front façade must be set back 20% of the bldg depth

3,900 SF Max FAR with bonus

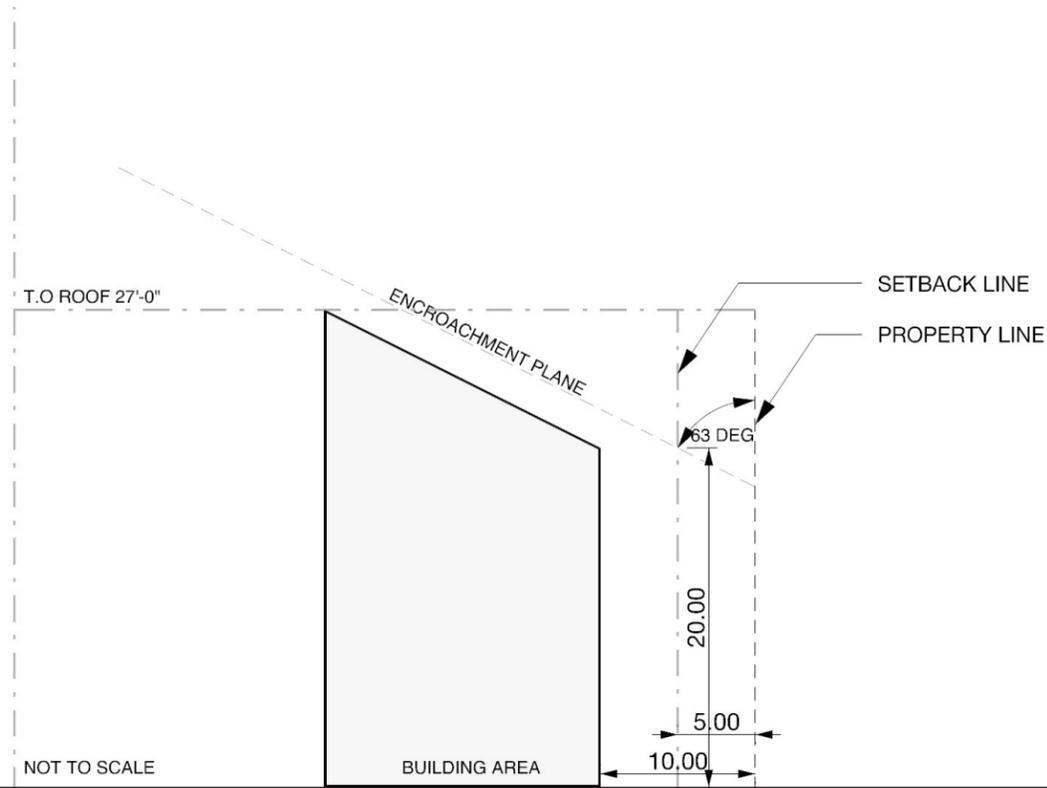
Setback Requirements:
Front Yard: 25' - 0"
Side Yard: 5' - 0"
Rear Yard: 15' - 0"

Floor Area:
Level 1: 2,223 SF (including covered garage)
Garage Area: 380 SF
Level 2: 1,677 SF
Basement: 2,190 SF

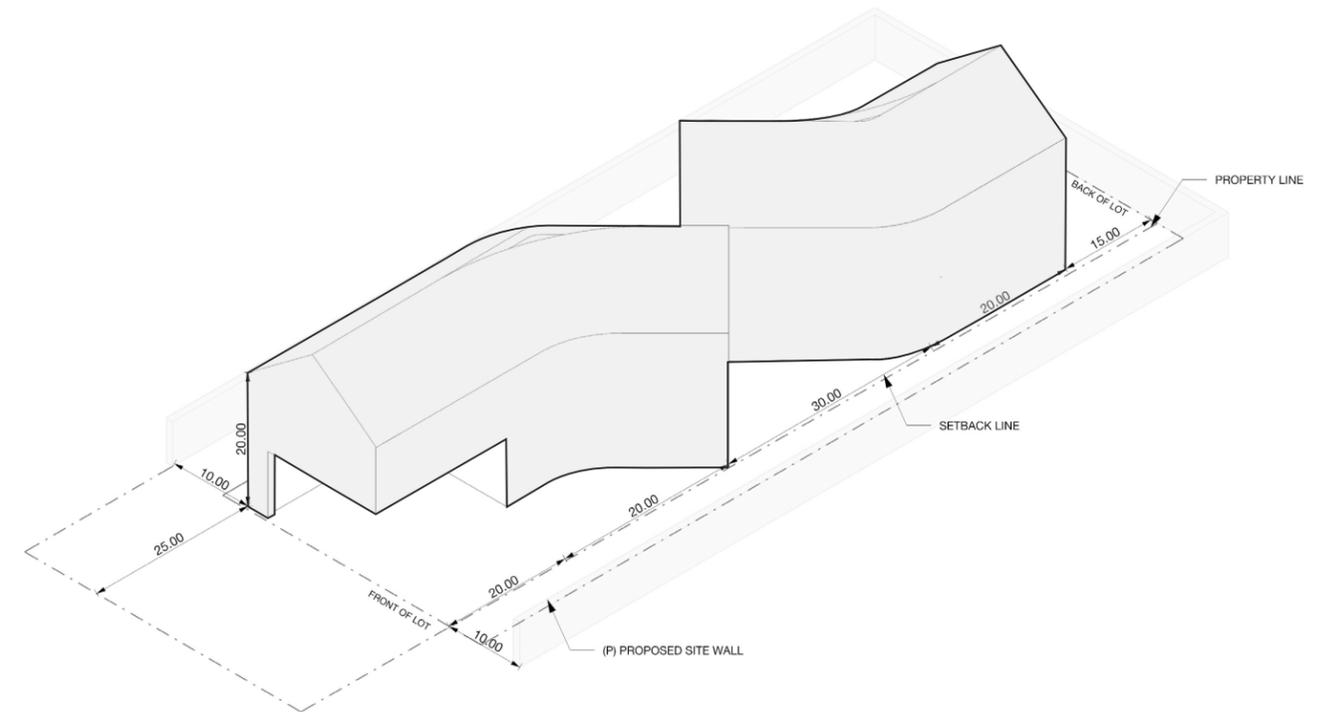
Total: 6,090 SF

Total Residential Floor Area (RFA):
3,520 SF
(excluding 380 sf of garage and excluding basement)

PROJECT DATA



ENCROACHMENT PLANE DIAGRAM



BUILDING ENVELOPE DIAGRAM

1.4 DESIGN FEATURES

FIRE RESISTANCE

The Deviant House uses 3D-printed concrete not only for its sculptural freedom, but for its inherent fire resistance. Most 3D-printed buildings today are made using concrete-based mixes or geopolymers. These materials are non-combustible and have high fire-resistance ratings, often able to withstand temperatures upwards of 1000°C (1832°F) without structural failure. Unlike wood or synthetic materials, they won’t ignite, melt, or release toxic fumes, while the printed structure also forms a continuous, nearly joint-free envelope with high thermal mass, slowing the transfer of heat and resisting flame spread.

ROOFING

The home uses a Corten standing metal seam roof for its durability, cost-effectiveness, and ability to shed water efficiently—making it ideal for a range of climates. Its lightweight nature reduces structural load, while the rhythmic texture adds a subtle architectural character to the building’s profile. A low-slope metal roof with concealed gutters and limited overhangs reduces ember catchment zones and enhances durability under extreme heat conditions.

EXTERIOR FINISH

The 3D-printed structure forms the entire first floor of the home, acting as both structure and finished facade. Made from locally sourced materials, it creates a monolithic, low-maintenance envelope that is non-combustible, vapor-permeable, and resistant to UV exposure. Above, a smooth stucco finish wraps the upper floor metal framed walls, introducing a lighter, more airy material that feels open, soft, and family-friendly. The contrast between the two volumes strikes a modern balance—rooted and resilient below, bright and breathable above—reflecting a contemporary take on California living, where fire resistance and indoor-outdoor flow are essential.

WINDOWS & DOORS

The windows and doors in the design were carefully selected for both their fire-resistant properties and their role in enhancing the connection to nature. We chose non-combustible, high-performance frames and glazing systems suitable for fire-prone areas, ensuring safety without compromising on aesthetics. Sliding doors and fully openable windows with Juliette balconies are integrated throughout the home to create a seamless transition between indoors and outdoors, immersing residents in the surrounding landscape.

DEFENSIBLE SPACE INTEGRATION

The site strategy incorporates a tiered defensible space system, using hardscape elements like decomposed granite, concrete terraces, and metal-edged planting beds to create protective buffer zones. Vegetation is selected from drought-tolerant species that are strategically placed to disrupt lateral flame movement while supporting erosion control and biodiversity. Near the home, 3D printed facades and non-combustible materials provide added fire resilience, while flammable elements such as wood mulch and dense shrubs are intentionally avoided near windows and vents. Fire-resistant plantings—such as lavender, manzanita, succulents, and California lilac—further enhance safety while maintaining a strong connection to the landscape.

VENTS

The proposed project minimizes the venting requirements by exposing the underside of the roof creating dramatic high ceiling spaces on the upper level. Where required, we’re approaching the project’s venting with a focus on safety and resilience. To minimize the risk of ember intrusion, we plan to use ember-resistant vents with fine mesh screens that meet wildland-urban interface (WUI) standards. These vents are strategically placed to maintain proper airflow while preventing wind-driven embers from entering the building envelope. This approach allows us to balance fire safety with healthy ventilation and energy efficiency.

EMBER-RESISTANT FEATURES

3D printing creates monolithic continuous walls, significantly reducing gaps or joints where embers could enter and ignite underlying materials. By using this method for the base floor of our design, we ensure a non-combustible foundation that won’t ignite or sustain combustion when exposed to airborne embers. In addition, 3D printing allows for precise design and detailing, where we can integrate ember-resistant features—like overhangs, drip edges, and vent screening—directly into the printed structure.

SUSTAINABILITY

The 3D-printed structure on the ground floor is built using locally sourced, cement-based material, reducing transportation emissions and construction waste while offering a durable, low-maintenance, and long-lasting envelope. The printing process itself is efficient, using only the material needed and minimizing offcuts. In addition the standing seam metal roof works to collect rain water which is used for irrigation. With is large southern exposure, solar panels help to lessen the electrical loads. Operable windows and sliding doors are strategically placed to encourage natural ventilation, reduce reliance on mechanical systems, and maximize daylight—resulting in a more energy-efficient and environmentally responsive living environment.

DESIGN QUALITIES

The architecture embodies a sense of tectonic clarity, revealing mass, shadow, and texture through its primary material. A central design idea was the balance between privacy and openness. While the exterior curves in two directions across the site, it quietly forms a series of lush, private gardens that wrap the home in greenery. Inside, the spaces unfold toward these gardens—inviting light, air, and views into the core of daily life. The curved form fosters a sense of intimacy while maintaining a constant connection to nature. Through careful placement of openings and calibrated spatial transitions, the design balances privacy with openness, creating a home that feels both grounded and expansive, deeply in tune with its landscape.

CONSTRUCTION METHODOLOGY

The construction methodology centers on resilience, sustainability, and precision. The ground floor is built using 3D-printed concrete, a digitally guided process that forms continuous walls directly on site with minimal waste and reduced labor. This method lowers embodied carbon by using locally sourced materials and optimizes efficiency through exacting control over form and material use. The printed walls offer excellent fire resistance, durability, and thermal performance, while their layered texture adds a unique, expressive quality. Above, a lightweight framed upper floor with smooth stucco cladding introduces contrast and structural balance.

EFFICENCY

Efficiency has been carefully considered in both energy use and spatial planning. Passive design strategies, such as natural ventilation and the thermal mass of the 3D-printed concrete walls, help reduce reliance on mechanical systems. The layout is optimized to maximize usable space with minimal waste, incorporating multifunctional rooms and adaptable zones for long-term flexibility. The durable, low-maintenance nature of the printed structure further enhances the home’s overall performance, resilience, and longevity.

STYLE FEATURES

The home’s style is defined by a sense of tectonic clarity, with clean lines and expressive materials that emphasize mass, shadow, and texture. A sculpted 3D-printed concrete base anchors the structure, paired with a lighter stucco-clad upper floor to create a modern and balanced composition. Large operable windows, sliding doors, and Juliette balconies enhance the indoor-outdoor flow, while the curved layout and garden-centered spaces offer both openness and privacy. The natural material palette, subtle textures, and built-in fire-resilient features reflect a calm, contemporary California aesthetic. The 3D-printed process also allows for custom expression through form, patterning, and layering—imbuing the home with a sense of craft rooted in technology.

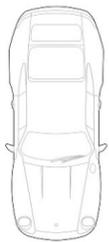
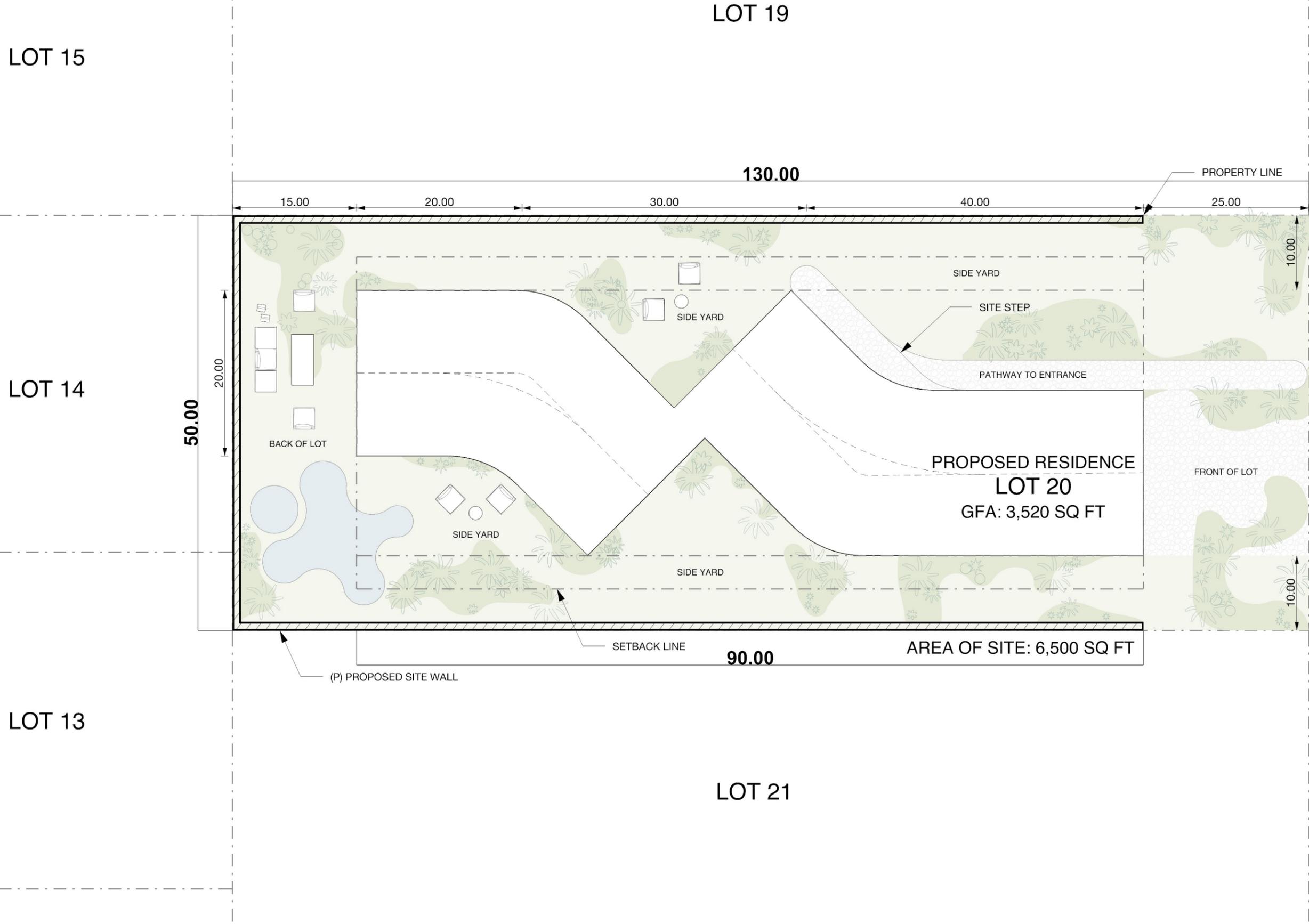
CUSTOMIZATION POTENTIAL

The design embraces customization through the expressive potential of 3D printing in both form and material. The printed concrete allows for variation in surface texture, curvature, and integrated detailing, giving each wall a unique, sculptural character. This method supports built-in features like niches or seating, and adds depth through layered patterning. The floor plan is designed for flexibility, with open layouts and sliding partitions that adapt to evolving family needs. The strong connection to the outdoors—through generous openings and strategically framed gardens—allows exterior spaces to function as true extensions of the home. These outdoor areas can be customized as gardens, dining spaces, play areas, or quiet retreats, creating an indoor-outdoor living experience tailored to the needs of each household.

2.0

PLANS

2.1 SITE PLAN

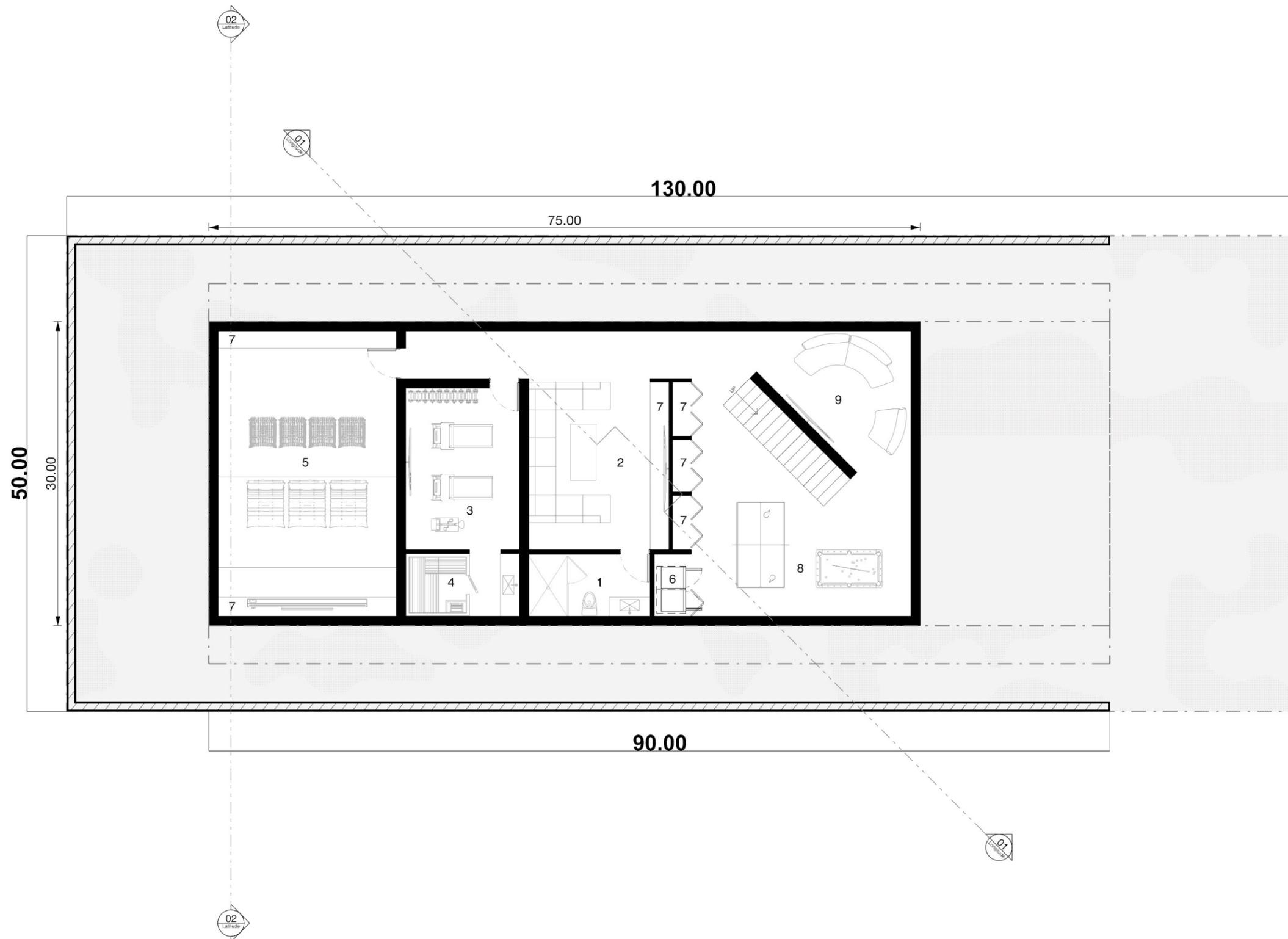


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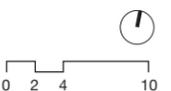
2.2 BASEMENT PLAN

*OPTIONAL

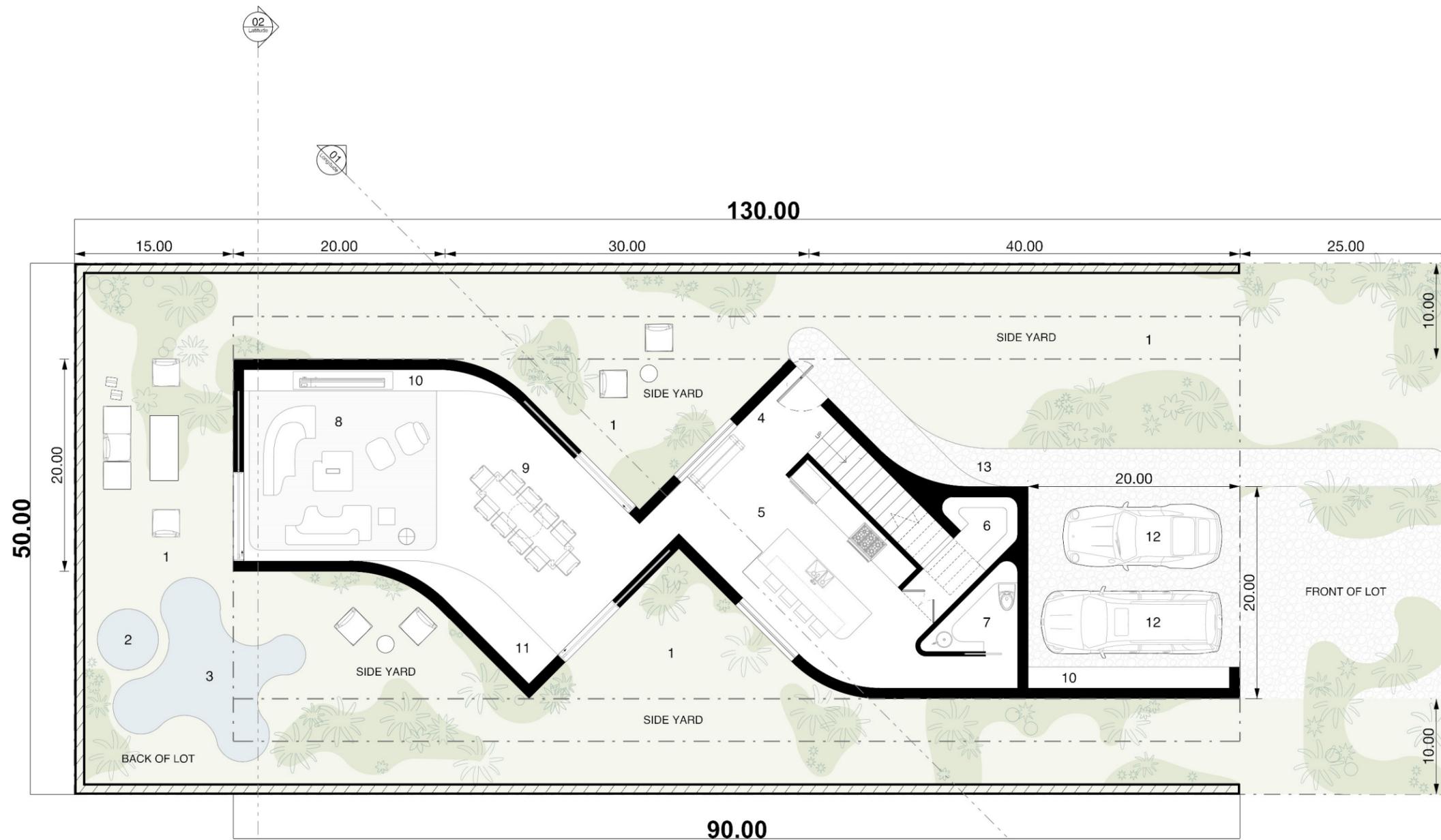


KEY

- 1. BATHROOM
- 2. FAMILY ROOM
- 3. FITNESS
- 4. SAUNA
- 5. THEATRE / ENTERTAINMENT
- 6. LAUNDRY
- 7. STORAGE
- 8. GAME ROOM
- 9. VIDEO GAME ROOM

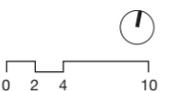


2.3 GROUND LEVEL

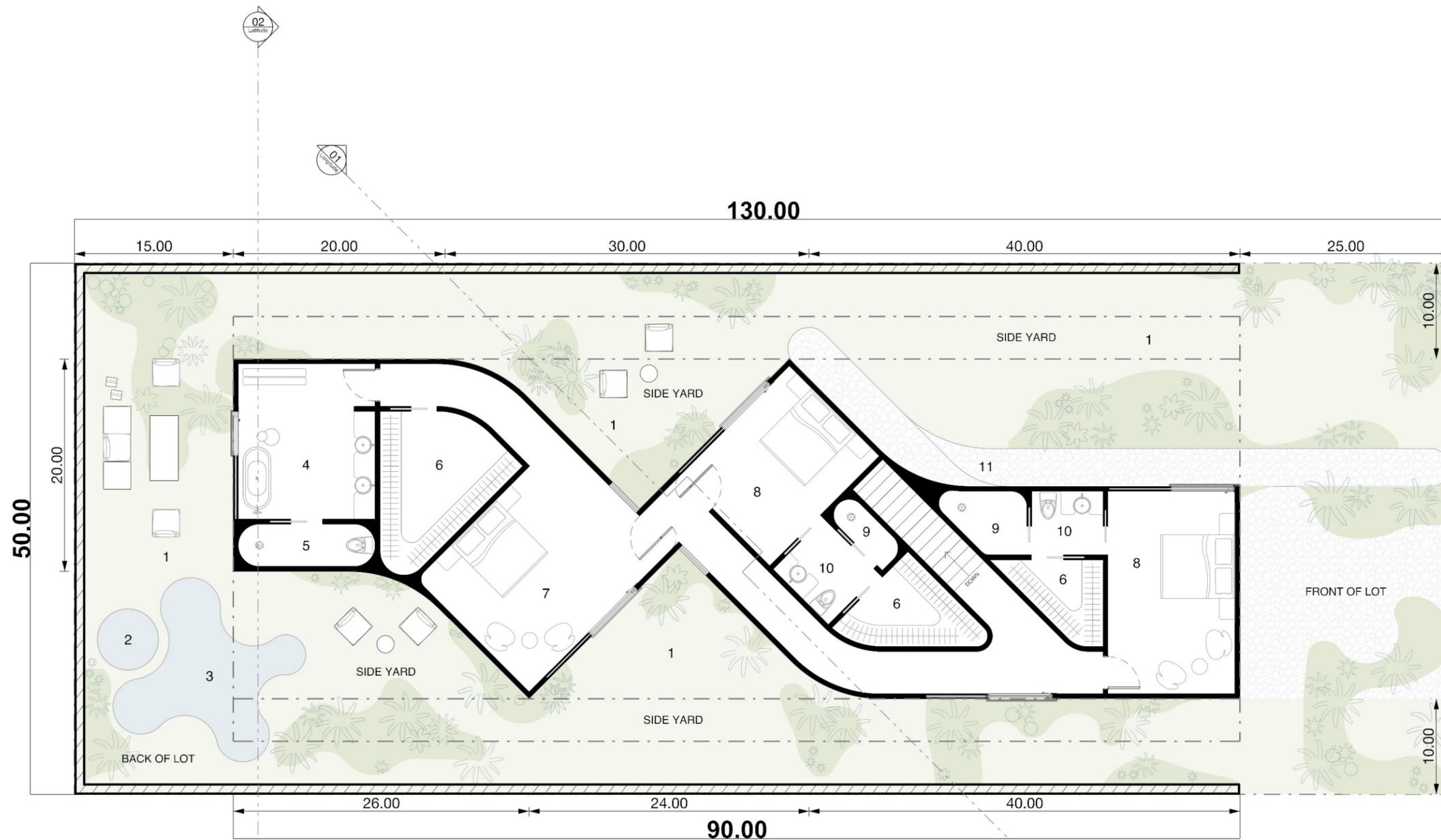


KEY

- 1. GARDEN
- 2. COLD PLUNGE
- 3. JACUZZI
- 4. ENTRY
- 5. KITCHEN
- 6. PANTRY
- 7. POWDER ROOM
- 8. LIVING ROOM
- 9. DINING ROOM
- 10. STORAGE
- 11. WINE CELLAR
- 12. PARKING
- 13. ENTRY PATH

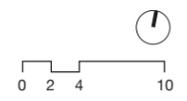


2.4 SECOND LEVEL

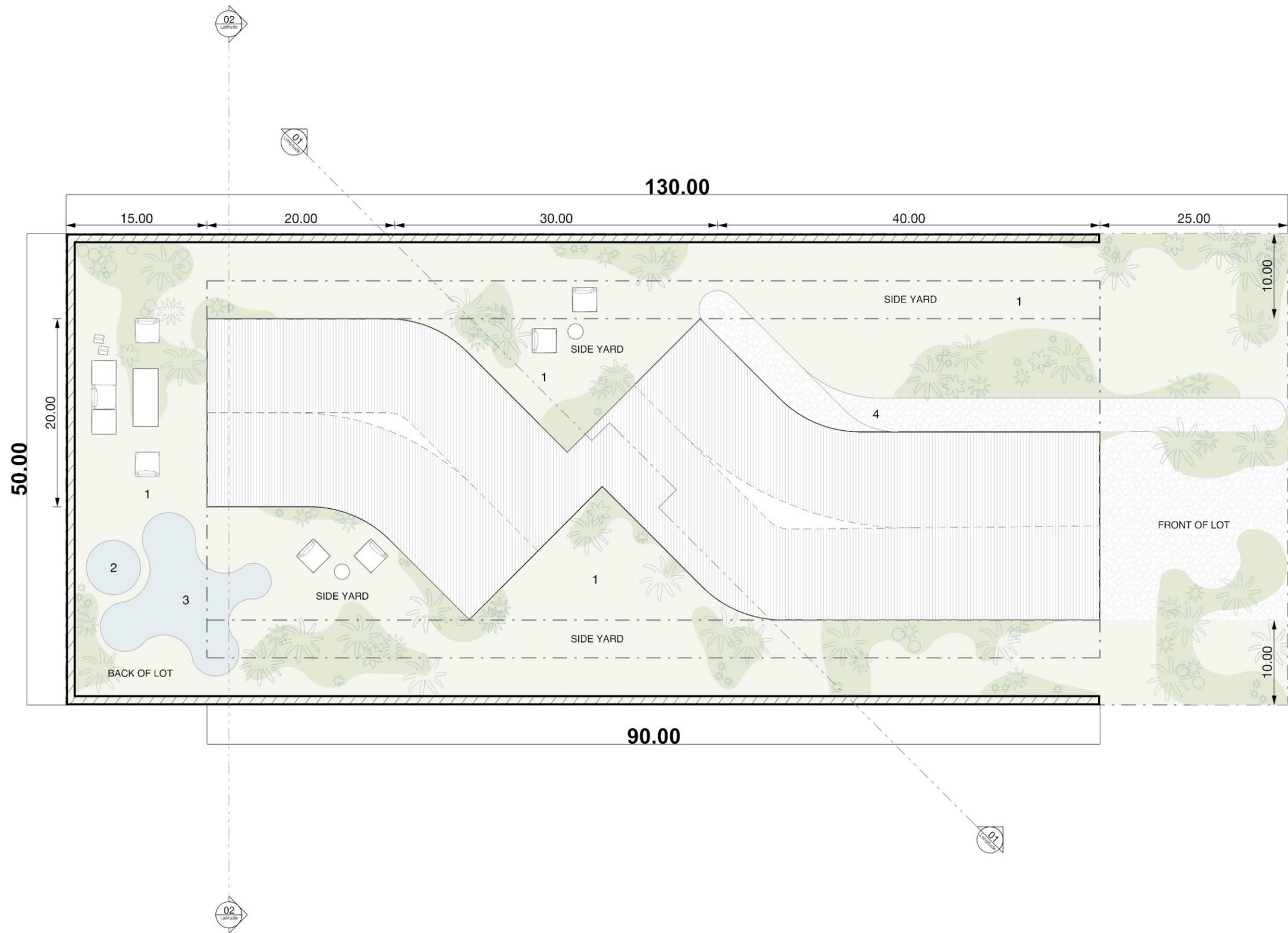


KEY

- 1. GARDEN
- 2. COLD PLUNGE
- 3. JACUZZI
- 4. VANITY & BATHING ROOM
- 5. SHOWER & WC AREA
- 6. CLOSET
- 7. MASTER BEDROOM
- 8. BEDROOM
- 9. SHOWER
- 10. BATHROOM
- 11. ENTRY PATH

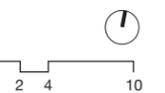


2.5 ROOF



KEY

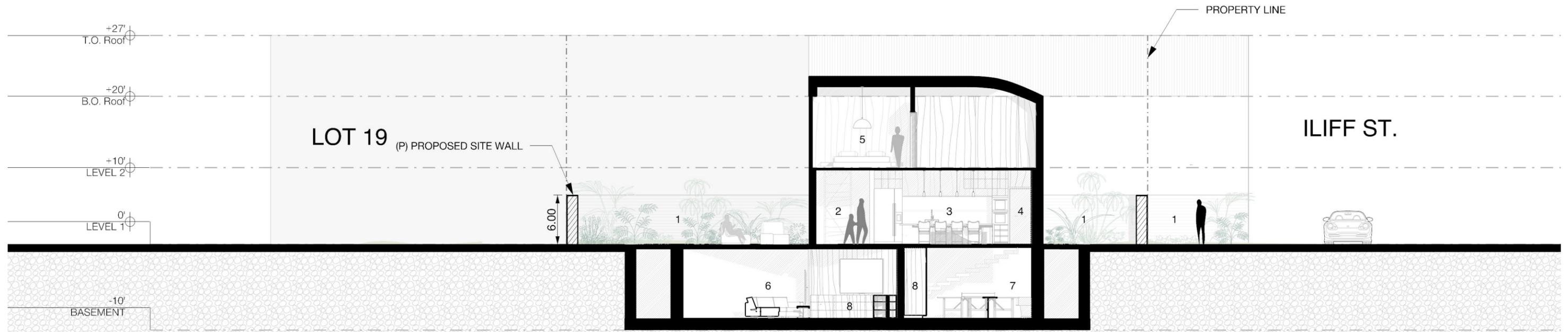
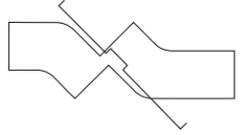
- 1. GARDEN
- 2. COLD PLUNGE
- 3. JACUZZI
- 4. ENTRY PATH



3.0

SECTIONS

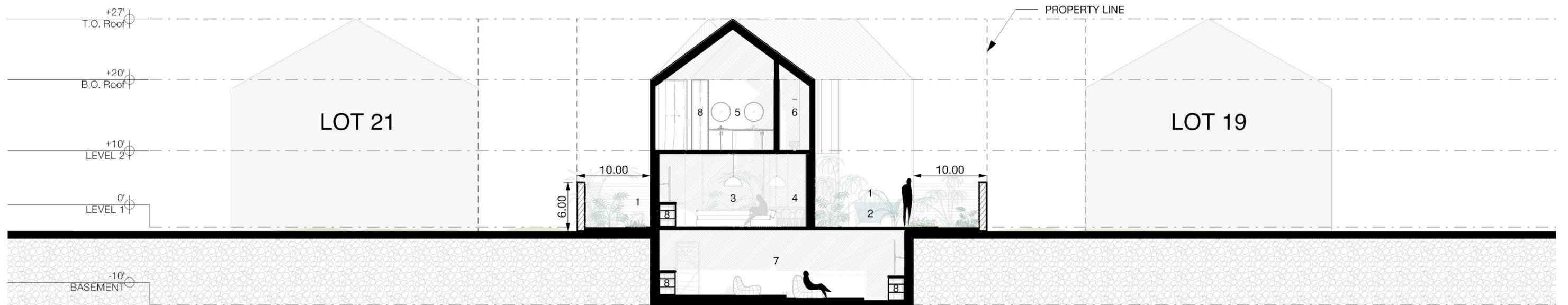
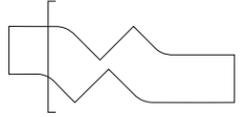
3.1 LONGITUDINAL SECTION



KEY

- 1. GARDEN
- 2. ENTRY
- 3. KITCHEN
- 4. PANTRY
- 5. BEDROOM
- 6. VIDEO GAME ROOM
- 7. GAME ROOM
- 8. STORAGE

3.2 LATITUDINAL SECTION



KEY

- 1. GARDEN
- 2. JACUZZI
- 3. LIVING ROOM
- 4. DINING ROOM
- 5. VANITY & BATHING ROOM
- 6. SHOWER & WC AREA
- 7. THEATRE / ENTERTAINMENT
- 8. STORAGE

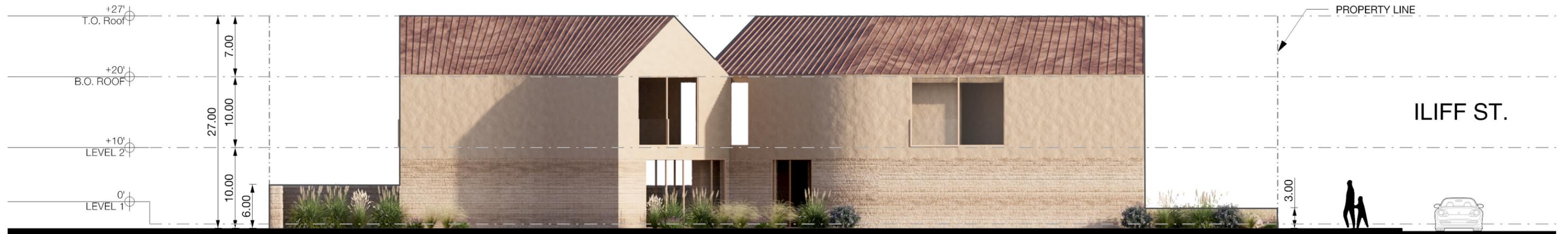
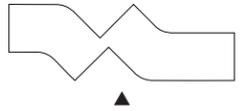
4.0

ELEVATIONS

4.1 NORTH ELEVATION



4.2 SOUTH ELEVATION



4.3 EAST ELEVATION



4.4 WEST ELEVATION



5.0

RENDERINGS











