



ROOM IN A GARDEN
3-Season Room Addition / Mt. Lebanon, PA / 2023
AFTERHOURS Design Collaborative

The owners of a post-war “California Colonial”-style home in Mt. Lebanon, PA asked us to imagine an unconditioned one-room addition to extend their living space for 3 seasons out of the year. Dictated by a modest budget, the proposed design intelligently navigates constrained existing conditions to create a secluded, sacred space for reading, reflection and morning coffee amongst the owners' garden. Materially, the proposed design attempts to make strides in reducing environmental impact compared to common building methods via low-embodied-energy, high-durability/high-reuse-potential, and/or reclaimed materials.

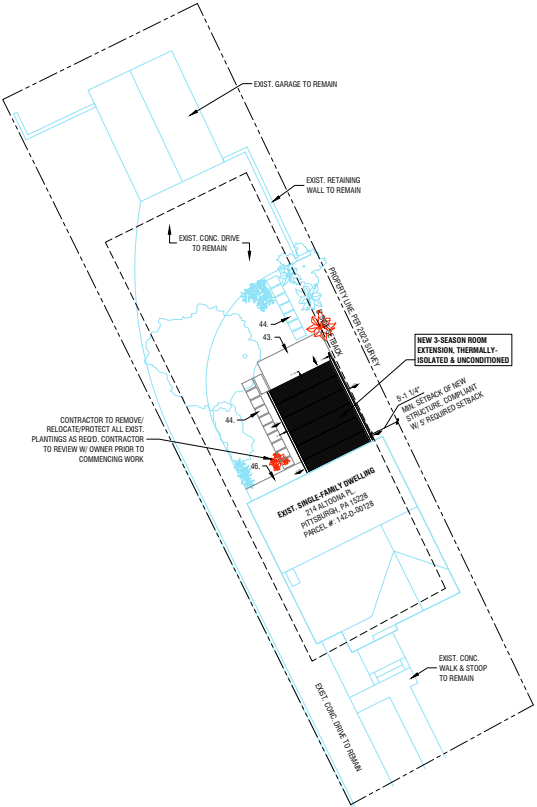
The owners' initial desire was to build a one-story enclosed porch spanning the full width of the rear of the house. After studying this and multiple other options, AFTERHOURS recommended biasing the addition to the east side of the property, a strategic move which serves multiple purposes simultaneously: 1) maintains as much of the existing garden as possible, 2) maintains continuous exterior access to the existing rear entry door, 3) does not block daylight into the existing living room, 4) allows direct access to the new space from the existing kitchen, and 5) allows the new structure itself to act as a privacy barrier to the eastern neighbors while allowing the room to open up to the private garden at the northwest. In addition, by maintaining exterior access to the existing rear entry door, direct entry from the sidewalk into the new structure is denied; instead, visitors must enter the home via the kitchen and descend down into the new room. The security, monumentality, and delayed gratification of this experience are paramount to reinforcing and protecting the sacredness of the garden room.

Where possible, low-embodied-energy, high-durability, high-reuse-potential, and/or reclaimed materials are proposed. As opposed to common fiber-cement or wood fiber products, the proposed lap siding material is thermally-modified Pennsylvania Poplar. This material is sourced and manufactured in central PA, is extremely durable, and has a high potential for re-use. In the awkwardly-sized spaces around the northwest windows and doors, reclaimed sheet metal siding is proposed, making use of otherwise discarded material and reducing the structure's overall embodied energy. The material change from wood to metal also helps to reinforce the overall formal gesture of the structure as it relates to the garden. Corrugated metal panel is proposed for the roofing and east wall cladding—another material with high durability and reuse potential as opposed to common petroleum-based and un-recyclable asphalt shingles. For wall and roof insulation, HempWool—a 100% non-toxic batt insulation product manufactured in the US using industrial hemp fiber—is proposed.

Following an initial pricing exercise utilizing the materials listed above, AFTERHOURS developed an additional proposal and cost estimate based on the use of Hempcrete, a highly-sustainable natural building method constructed from domestically-produced hemp hurd and 100% natural lime-based binder. The single monolithic material—which is naturally rot-resistant, termite resistant, fire-proof, highly insulative, and fully biodegradable—is installed around the wood structural framing and acts as insulation, exterior finish, and interior finish all at once. The cost estimate for a Hempcrete build was comparable to the base bid, with the environmental benefits of Hempcrete being far superior.

Years
2023

Design
AFTERHOURS: Garrett Rauck



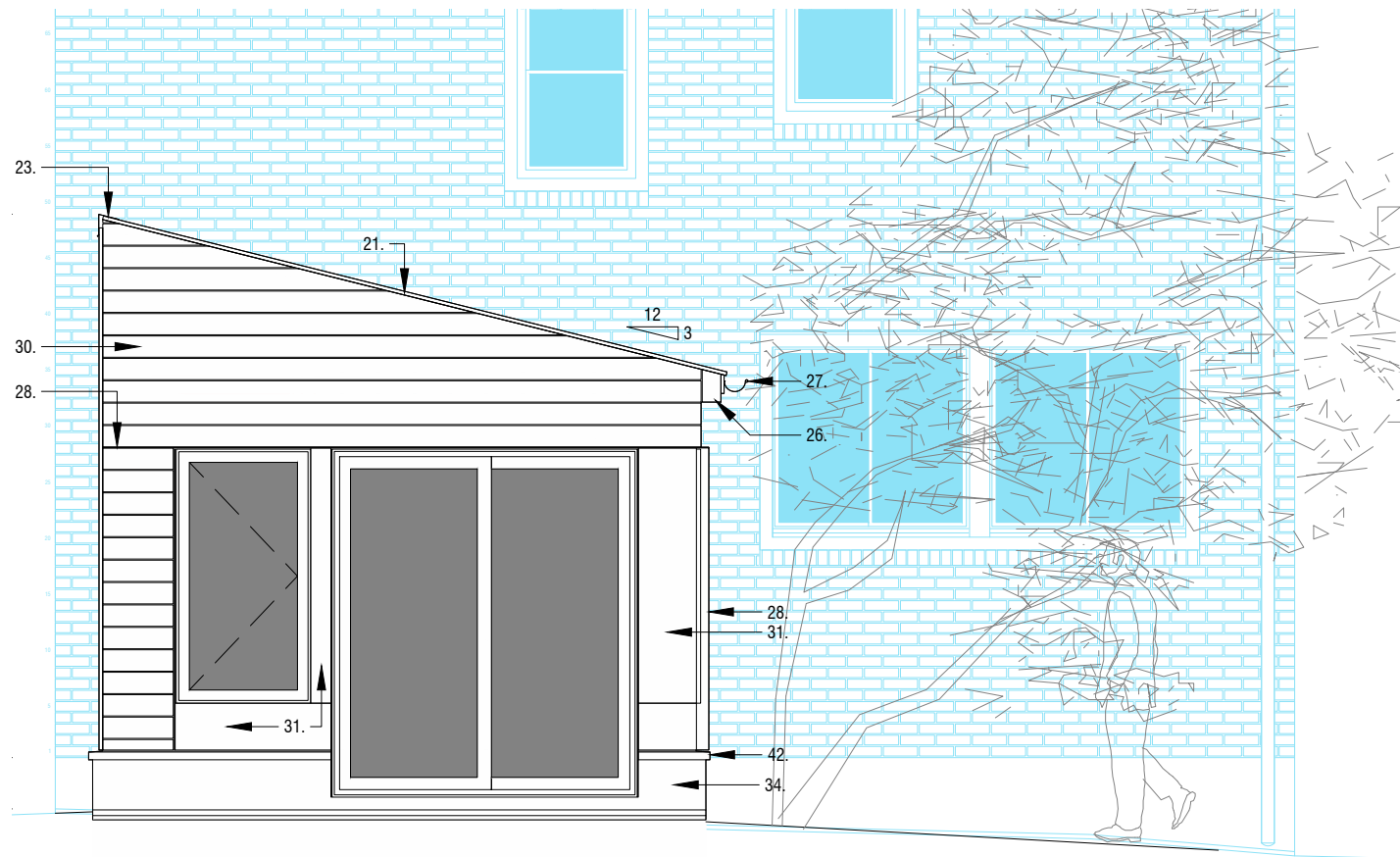
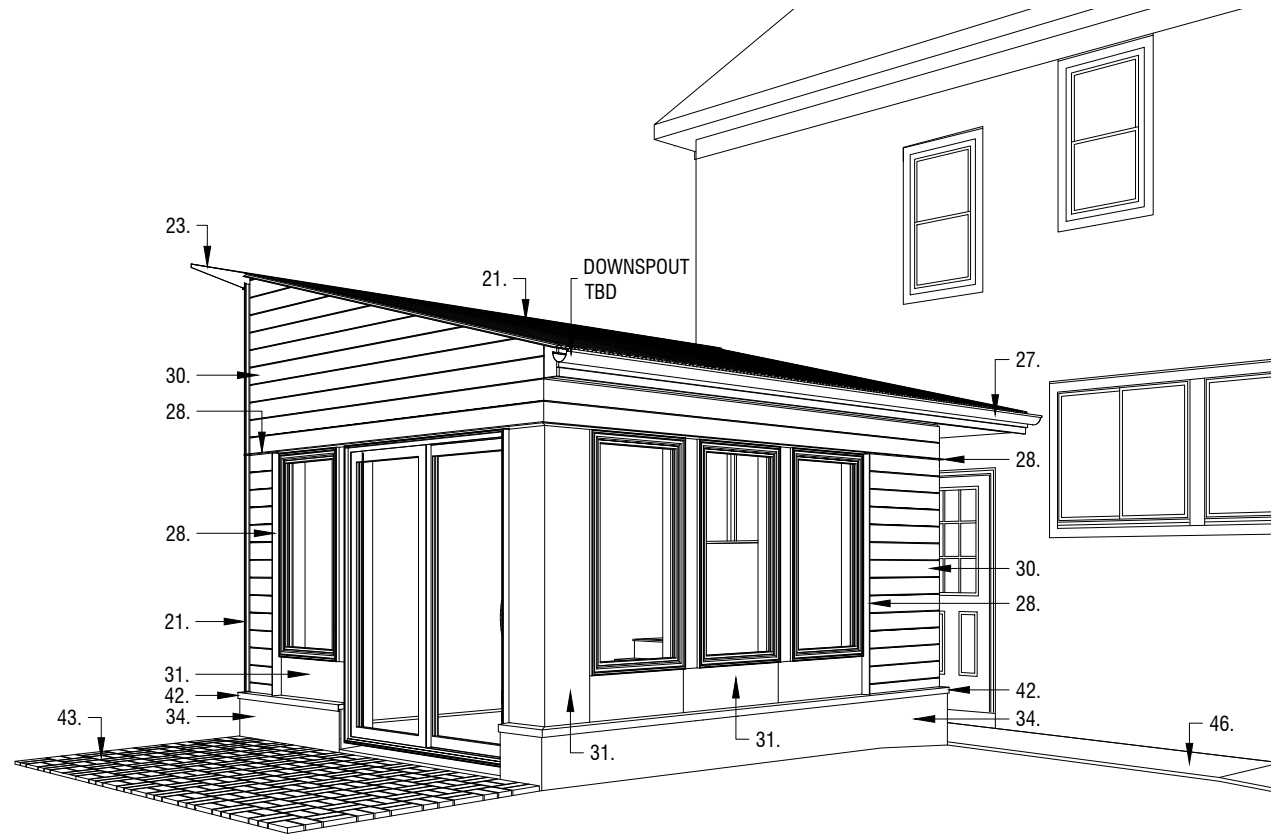
Site Plan, true north.



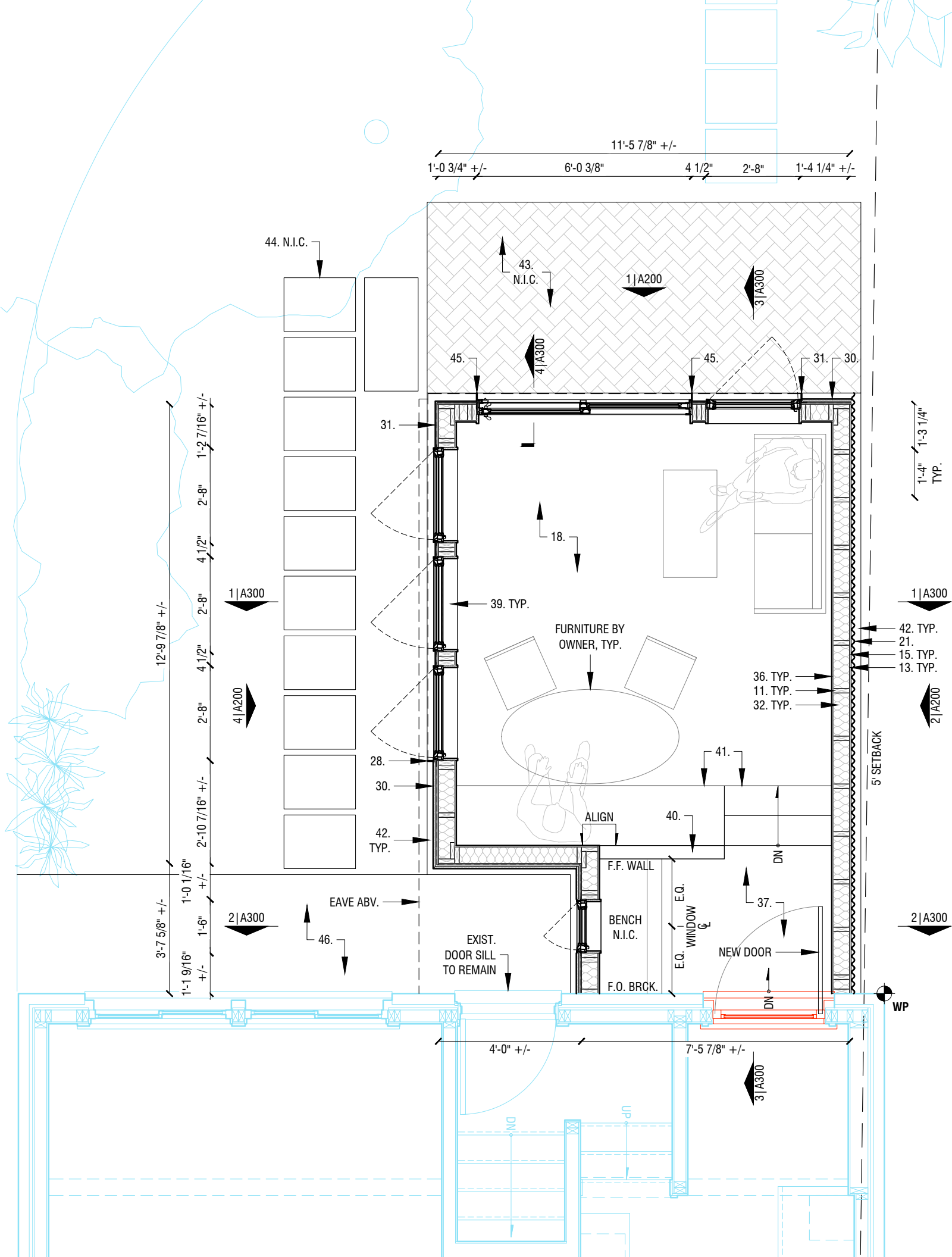
(Above) Hempcrete study: rendered view looking southeast; (Opposite) Rendered view looking south.

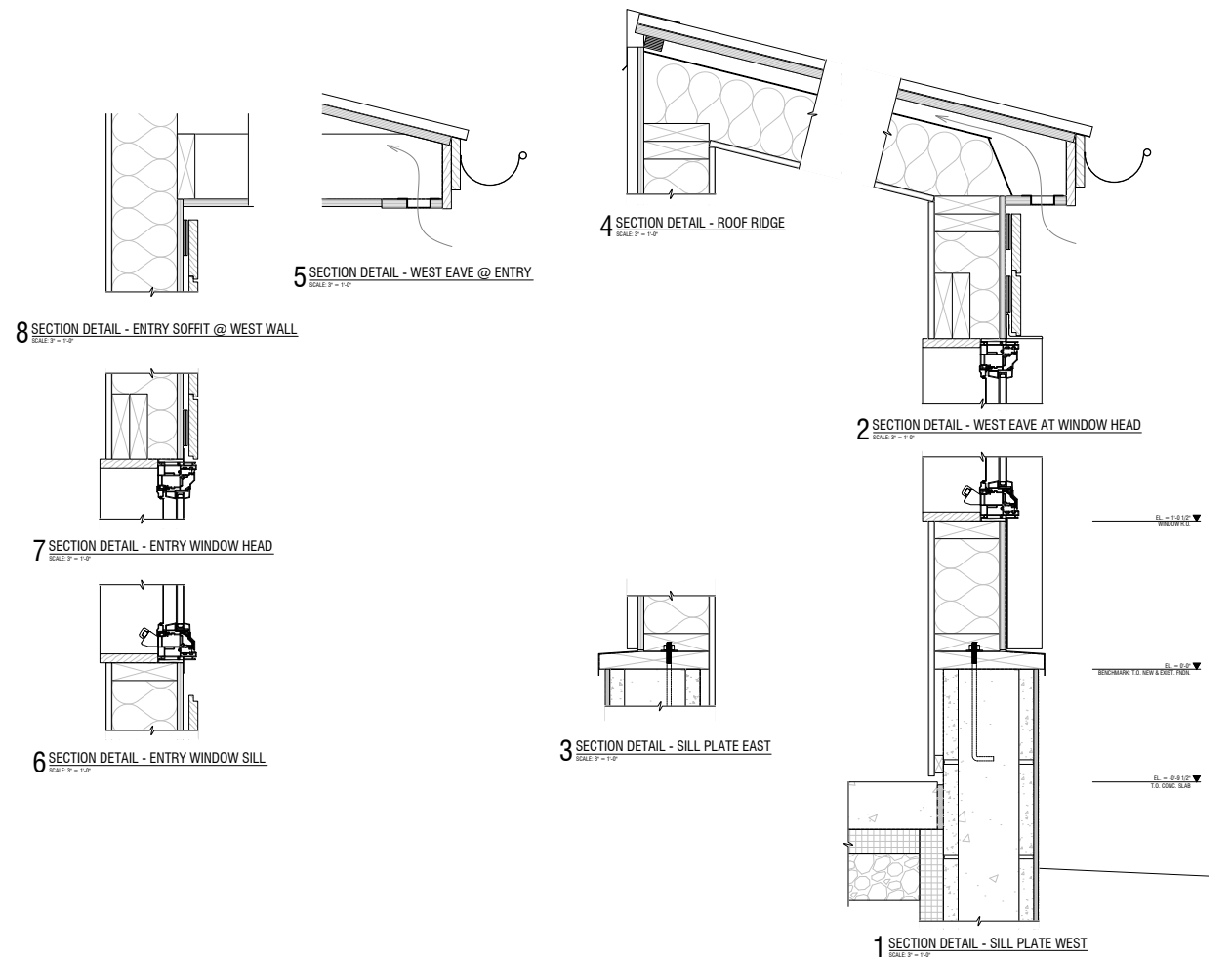
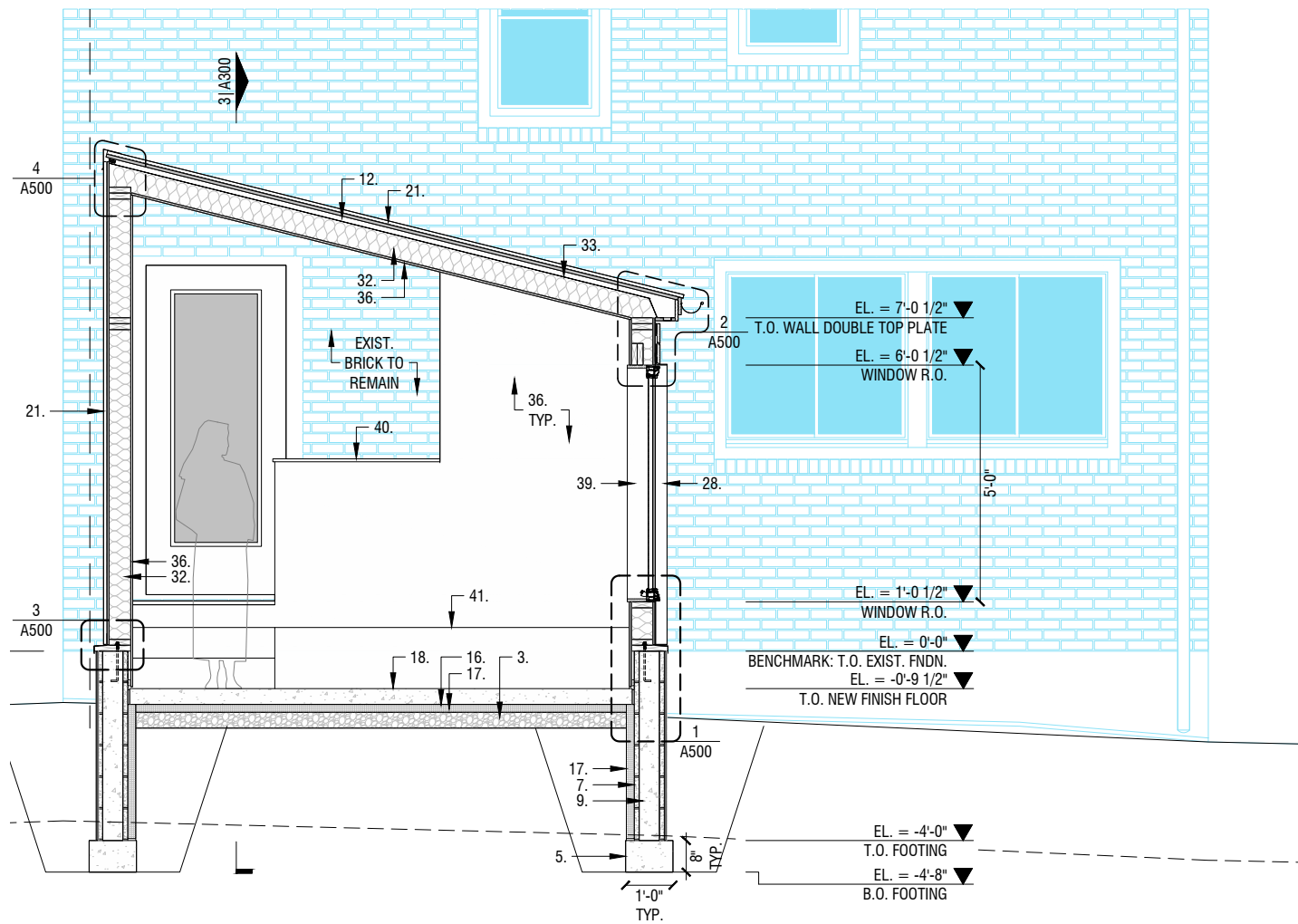
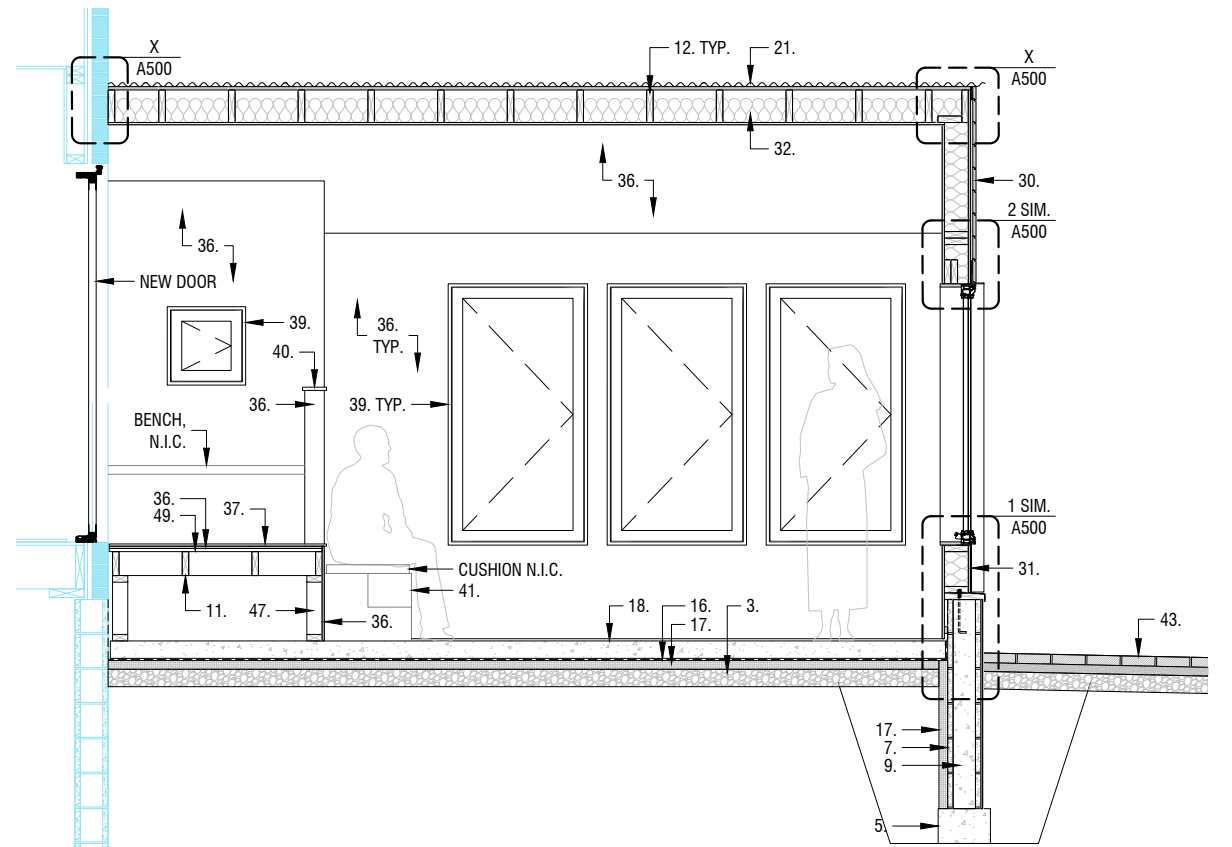
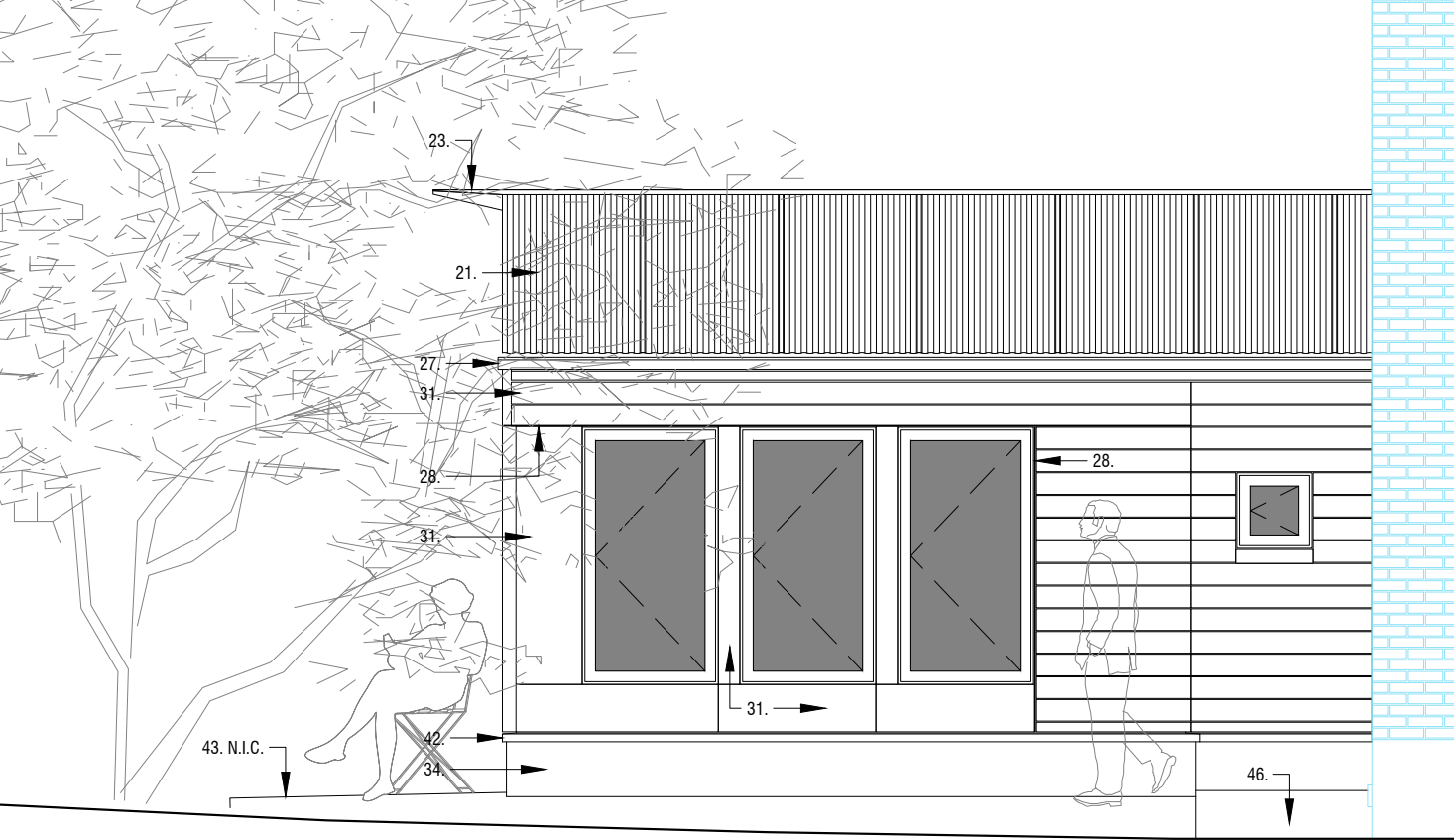


Interior rendering from proposed landing looking northwest. A small square window provides a peek to the rear entry walkway, giving the owners visual access to approaching visitors. In the lower sitting area, casement windows and a sliding door open the space up to the garden to the northwest while the solid wall to the east provides privacy from the neighboring property and a sense of security.

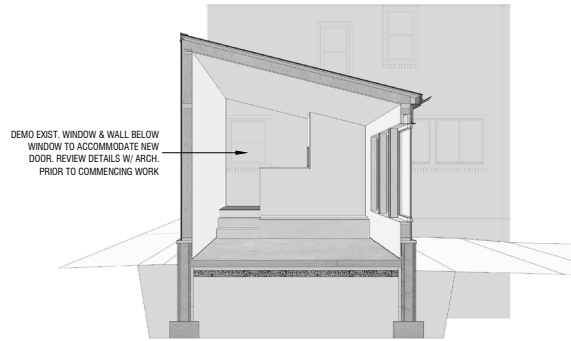


(Top) Perspective View, looking southeast; (Bottom) North Elevation; (Opposite) Construction Plan.

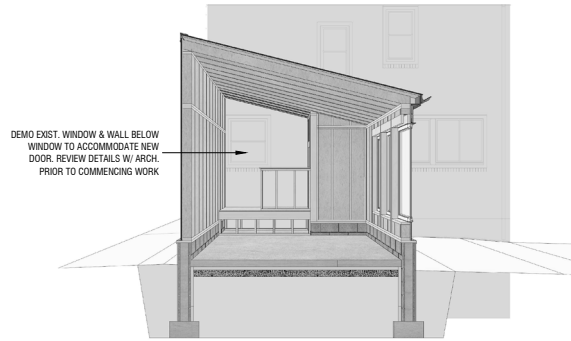




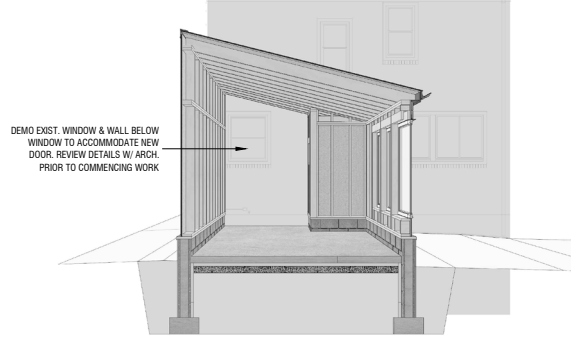
(Top) West Elevation; (Bottom) Transverse Section; (Opposite Top) Longitudinal Section; (Opposite Bottom) Construction Details.



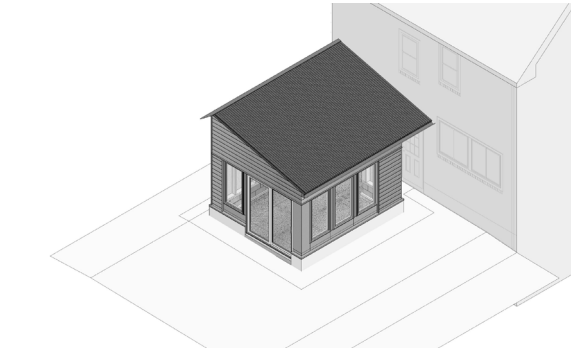
16 DRYWALL, TILE, TRIM & CASEWORK
SCALE: N.T.S.



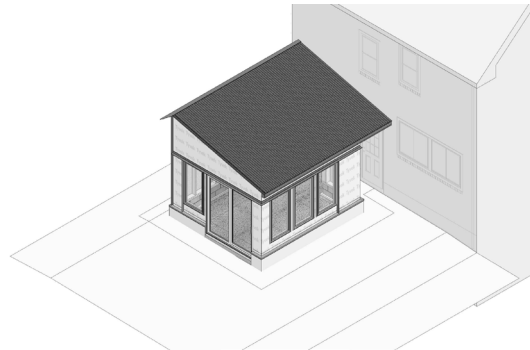
15 WALL & ROOF INSULATION & LANDING FRAMING
SCALE: N.T.S.



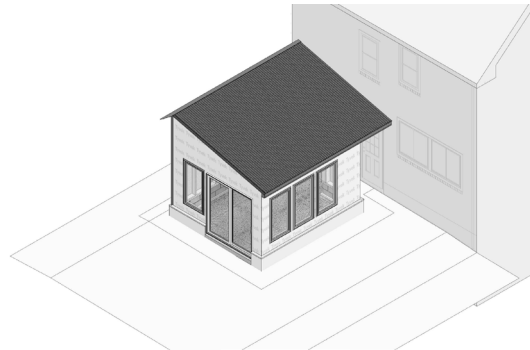
14 VAPOR BARRIER & SLAB
SCALE: N.T.S.



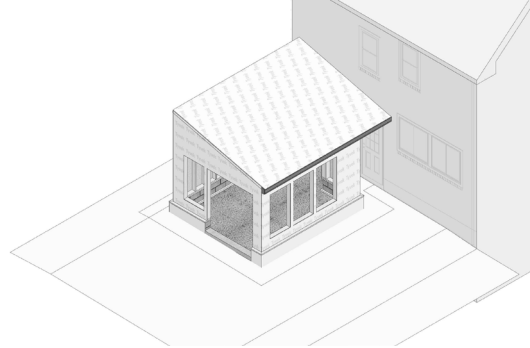
13 SIDING
SCALE: N.T.S.



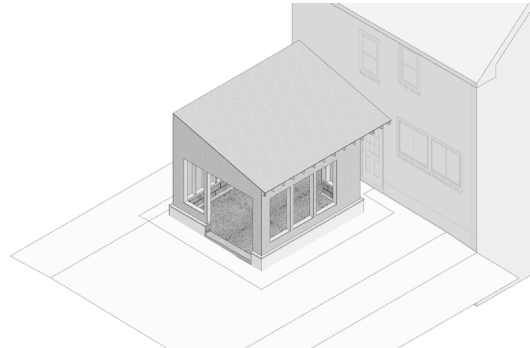
12 EXTERIOR WINDOW & DOOR TRIM
SCALE: N.T.S.



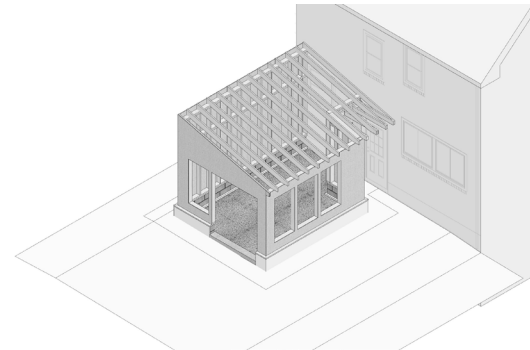
11 ROOFING, WINDOWS & SOFFITS
SCALE: N.T.S.



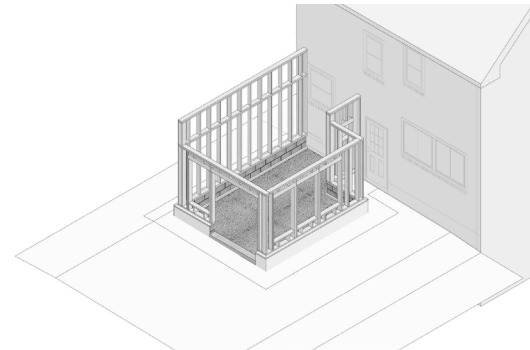
10 BUILDING WRAP
SCALE: N.T.S.



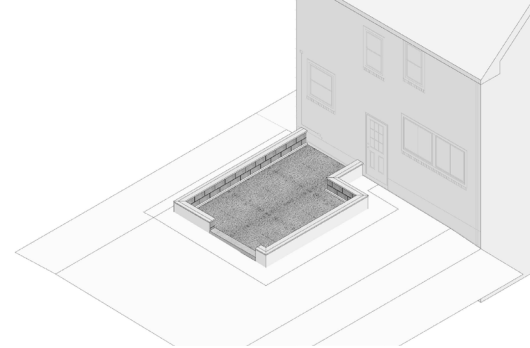
9 ROOF SHEATHING
SCALE: N.T.S.



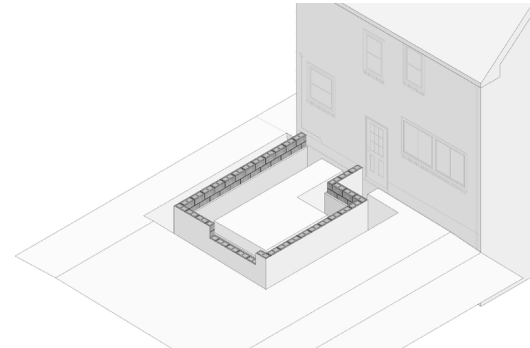
8 WALL SHEATHING & RAFTERS
SCALE: N.T.S.



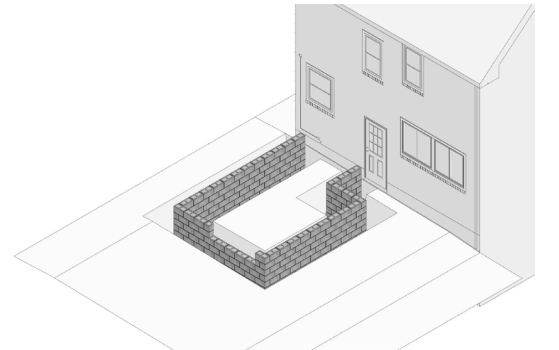
7 WALL FRAMING
SCALE: N.T.S.



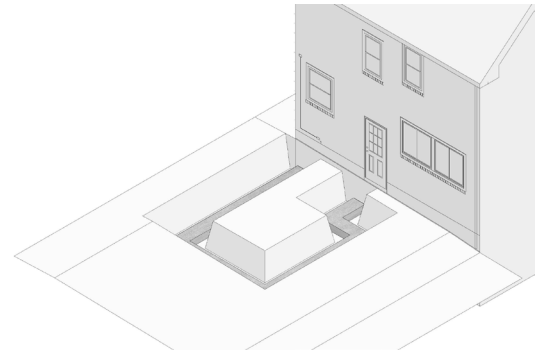
6 BACK FILL, SLAB SUB-BASE & SILL PLATES
SCALE: N.T.S.



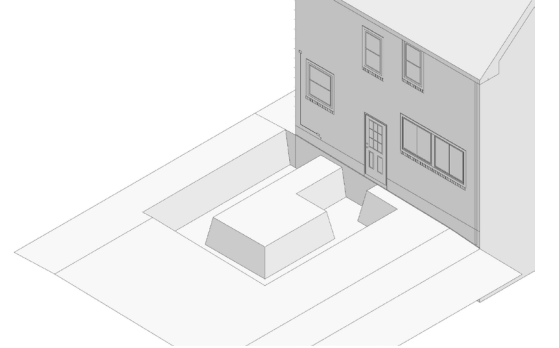
5 PERIMETER INSULATION & PARGING
SCALE: N.T.S.



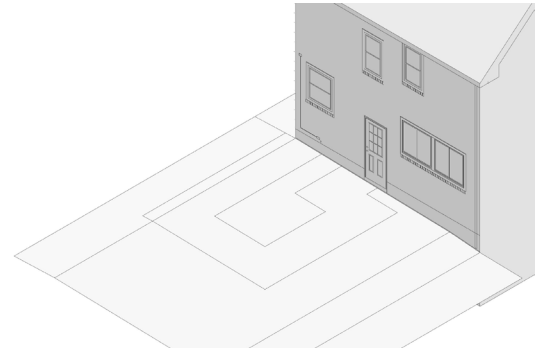
4 BLOCK STEM WALL & CORE-FILL
SCALE: N.T.S.



3 CONCRETE FOOTING
SCALE: N.T.S.



2 EXCAVATION
SCALE: N.T.S.



1 EXCAVATION LAYOUT
SCALE: N.T.S.