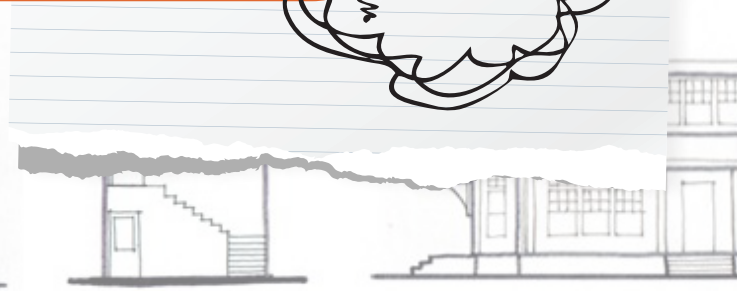


THE MISSING MIDDLE MIXTAPE:

More Pattern Book Homes for
21st Century Michigan





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Hold Harmless Statement

This Pattern Book for new infill construction is focused on housing solutions based on built historic precedents, current housing trends, and primary documentary research. In presenting replicable, context-sensitive designs for use in creating new infill construction, our goal is to enrich the urban fabric of neighborhoods within existing downtown-adjacent Michigan neighborhoods.

In championing infill and the concentration of new housing units within existing infrastructure, our focus is upon vacant lots laid bare by blight removal or the utilization of lots never built upon. The building concepts, sample interior layouts, and open-source construction documents presented in this publication are intended for construction on vacant parcels in existing neighborhoods or redevelopment sites. In no way is this manual or the recommendations contained herein an endorsement for teardowns of existing historic housing units.

Visual and written recommendations are provided for housing form/massing, lot placement, and exterior finishes which are complementary to existing neighborhoods. The design team has paid close attention to International Building Code Standards and principles of Universal Design. Sample construction documents are presented without an official seal. Surveying, Landscape Architecture, Structural Engineering and Site Engineering are outside of the scope of this endeavor. Each building site and its accompanying circumstances are unique. Statewide public distribution necessitated cautionary omissions in the final set. These omissions must be addressed by design professionals familiar with the chosen site. **Verification of local conditions, including lot irregularities, soil conditions, snow loads, and numerous other factors will need to be confirmed by professionals who will address the many regional variations.** In conclusion, it is incumbent on the groups or individuals who proceed with one or more of the model plans presented in this publication to conduct their own due diligence.



SECOND VERSE, SAME AS THE FIRST

This publication is the sequel to the successful first volume, *This Used to be Normal: Pattern Book Homes for 21st Century Michigan*, which was published in September 2022. Its purpose is to be a look-book of additional pattern book homes-inspired designs that can be used to spur new housing construction in Michigan cities.

By cutting down on the cost of design and streamlining review, this ever-growing collection of construction plans is giving communities the tools to create new homes right in their own neighborhoods.

Access to good housing is as essential to thriving communities as the well-being of the people who live in them. It is critical infrastructure – just as important as safe roads and sidewalks, clean water, functioning power lines, and high-speed broadband. Without enough of it, our communities are likely to struggle and fail.

Nationwide, and in Michigan, the housing sector has never fully recovered from the Great Recession of the late 2000s, which dealt a death blow to housing production. While for a time, while the economy rebalanced, there was a perception in certain regions that the market was flush with houses lost to foreclosure and that new construction was not needed. This temporary glut has not been the case in the long term. This supply-demand imbalance, which predated this time of economic tumult, has been perpetuated by the persistent underbuilding of homes over the past 15 years.

Missing Middle type housing, which exists in the space between detached single-family homes and midrise apartment buildings, is even more absent from the landscape. This kind of housing is the least likely to be constructed yet is often among the most desired housing formats.

According to the National Association of Realtors, at the time of this publication in Fall 2023, the United States currently has the lowest inventory of for-sale homes since 1982. And housing prices have climbed substantially as well. Since 2011, housing prices in Michigan have risen more than 160% on average across all counties.

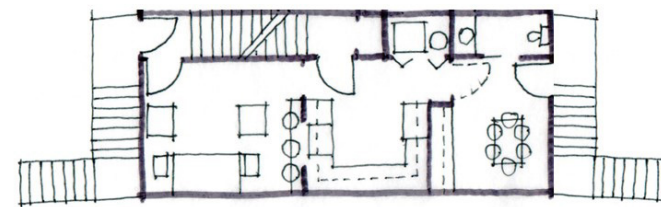
**SOMETHING IS MISSING
FROM THE HOUSING SUPPLY.
WE MUST INCREASE THE TEMPO.**



The Missing Mixtape: More Pattern Book Homes for Michigan functions as a stand-alone manual in response to the conditions facing the housing sector in Michigan at the time of publication in Fall 2023. It presents four new sets of plans, including an Accessory Dwelling Unit (ADU), a small cottage, a side-by-side duplex, and another up-down duplex.

These plans can be used for making an original mixtape of new construction while simultaneously blending in with homes that already exist to create a neighborhood sense of place. They can also be used to fill gaps within downtown-adjacent residential and mixed-use neighborhoods or for the creation of new neighborhoods on vacant land.

Like Volume I, this manual is informed by historic pattern book housing precedents designed to fit into the regional context of Michigan neighborhoods. By cutting out the cost of time and financial expense in the design process, they are a quick, free, and attractive design option for responding to present housing needs. And, just like a good mixtape's handmade cover art, these designs offer differing finish options to promote stylistic variation and choice. They also have optional Universal Design elements to make ground floor units barrier-free. This mixtape even includes a hidden track right inside the walls: they've been designed with structural insulated panels (SIPs) for increased efficiency in both speed of construction and energy usage.



These plans are not the only solution to current housing needs, but they are a way to increase the drumbeat for more small-scale energy-efficient homes.

**BUILD ON. ROCK ON.
AND MAYBE DO SOME
AIR GUITAR.**



The background features faint architectural line drawings of houses. In the top left, a portion of a cassette tape is visible with labels like 'LEADING LEADER', 'NORMAL POSITION', and 'DX1/60'. In the top right, a hand-drawn lightbulb with radiating lines is on a green paper scrap. In the bottom right, a cassette tape labeled 'COMPUTER CASSETTE' is shown. A red rounded rectangle contains the main text.

MAKING A HOUSING MIXTAPE

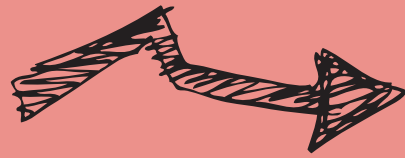
Part of switching up that housing tempo is acknowledging that Michigan's current housing portfolio does not meet the demands of its current or future residents. Rather than the mid-20th century nuclear family ideal of four or more people living under the same roof, the average household in Michigan now consists of only 2.48 people.

In contrast, our aging housing stock is comprised of approximately 70% single-family homes, many with three bedrooms or more and in need of substantial reinvestment. This housing format works for many kinds of households, but it needs to meet the needs of a growing segment of the population who want smaller-scale homes.

While the larger single-family part of the housing portfolio is well-covered, and rehabbing existing homes is a critical part of maintaining the current housing stock and its continuity of place, our communities also must rebalance with other kinds of homes. As reported in national newspapers, such as *The Wall Street Journal*, demand for smaller-scale housing like duplexes and townhomes continues to top the list of desired housing formats for both entry-level buyers and empty-nesters. It's a persistent refrain in nearly every song being played in the housing space: we need to invest more substantially in other kinds of homes that meet a wider array of size, configuration, and affordability options.

HENCE, THE MISSING MIXTAPE FOR NEW MISSING MIDDLE HOUSING.

Back in the days before digital streaming and easily created custom playlists, old-school music lovers relied on mixtapes. Listeners would pick and choose individual tracks from radio broadcasts or dub them from owned or borrowed cassette tapes. This handmade selection of curated songs was a form of personal expression, built to create a desired mood or capture groups of favorites separated out from long albums of B-grade songs. In addition to being infinitely customizable, the mixtape was also a way to share current cultural content outside of the marketplace, distribute sounds freely, and cut directly to the best parts.



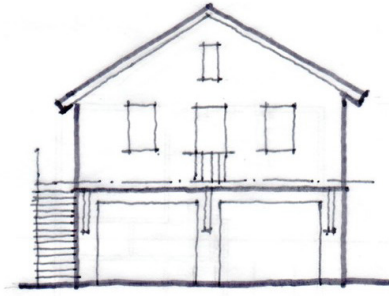
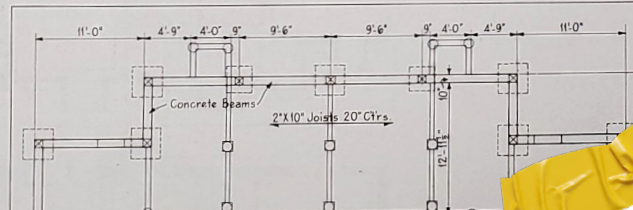
A mixtape often describes a self-produced or independently released album issued free of charge to gain publicity or avoid possible copyright infringement. This set of building plans is no different.



Houston Duplex Offers 3-Bedroom Units

THIS moderate sized duplex design is of unusual interest because each unit has three bedrooms instead of two. This was achieved by a Houston architect, by attaching garages on both sides and putting an extra room above each to be used as den, maid's room or third bedroom. A firm of Houston builders erected this duplex; the convenience of the design and general attractiveness are indicated by its sale before completion. Since heating and cooling, with emphasis on the latter, are particularly important in that section of the

country, these problems were given careful attention. Cross ventilation in all rooms where possible the use of an attic ventilating fan, give maximum freshness in summer. For further comfort, two of the rooms have south or east exposures. Attached garages, each of which has its own drive, eliminate of the problems frequently arising in duplex design the embarrassment of one of the tenants when he parks his car in a common drive which leads to garages. The overall dimensions are 60' x 32'; containing 34,840 cu. ft.



In a similar vein, these copyright-free plans are curated with a little time-stretching and architectural beatmatching. Like in the Nick Hornby novel *High Fidelity*, where lead character Rob Fleming puts together themed mixtapes, this kind of new infill is “a very subtle art.” Slipping from one track to another, these homes are designed to be modules that can be lightly keyed into existing neighborhoods. The intention here is not to break up with the current love—in this case, our downtown-adjacent neighborhoods—it is instead to deepen the vibe of a community and help the beat go on.

The homes designed for this Pattern Book are a kind of five-chord progression for neighborhood development. They can be configured as stand-alone or in groups and finished in a variety of skins. Any way you arrange them, these homes will create what is needed, where it's needed, right where it's wanted to be.

While these designs are quicker to construct than custom-built homes, they are neither cheap solutions nor high-end. They exist in the golden median, with optional finish levels and floorplans desirable to both downsizing elders and younger home seekers in their 20s and 30s. By building flexible, adaptable homes that appeal to different kinds of people right in the neighborhoods people already like, our communities can add needed housing solutions that will last and flex to meet housing needs for decades to come.



THE PLAYLIST

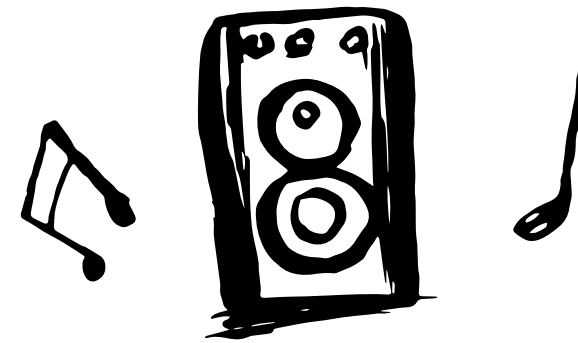
Like the radio standards of Classic Rock, some housing designs can endure over generations.

Included in this manual is a collection of beautiful plans inspired by historic precedents and gently transformed to provide a more expansive body of residential building types. These designs are authentic to places Michiganders know well. They have the look and feel of what you expect to find in The Mitten State, as traditional as a slow-rolling jam on the Woodward Dream Cruise.

They are suited to fit downtown adjacent neighborhoods, flawlessly residing alongside century-old structures and companionably next to mid-century homes. And yet, they remain firmly rooted in the 21st century. Each model is designed to meet contemporary building codes and commonly used construction techniques while still being sensitively crafted with attention to scale and mass, materials, and critical regionalism.

The result is an additional authentic set of Missing Middle housing options with architecture that is irresistible, relevant, and a bit of a design earworm.

PSST. WE MADE A MIXTAPE JUST FOR YOU. NOW, GO PLAY IT IN YOUR NEIGHBORHOOD.



The Abbot Model A – Accessory Dwelling Unit (ADU)

The Abbot Model A is configured as a two-bedroom/one-bathroom cottage perched atop a two-car garage. This gable-fronted module is accessible by a single flight of open stairs located on one side of the double set of garage doors.

More commonly considered as an ADU, or Accessory Dwelling Unit, this version of The Abbot can be easily and unobtrusively tucked in the rear of an urban lot. This track is easily dubbed in mashup with an existing single-family home. It would be ideally positioned behind an existing dwelling or slightly offset from the main dwelling. It could also be aligned with direct driveway access.



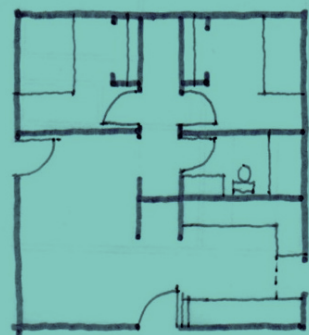
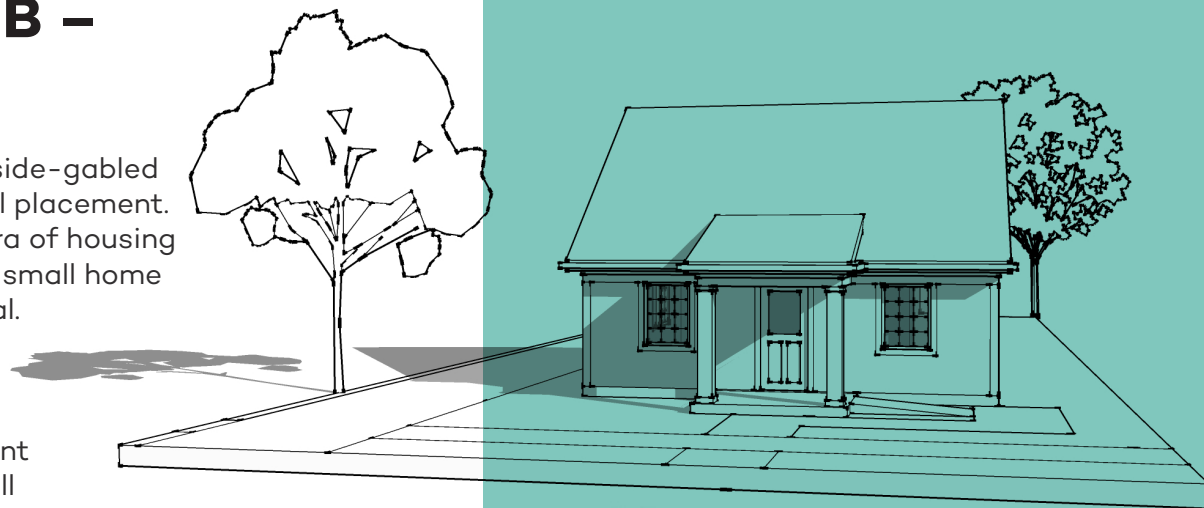
Another recommended lot placement could be to position The Abbot ADU perpendicular to the existing dwelling on the edge of a corner urban lot to face the intersecting street. Yet another option could be to face The Abbot ADU away from the primary dwelling and orient it to a rear alley access.

Like a garage band, this model is simple to get started. The format of creating a living space above a garage is frequently seen in residential areas and is among the most likely to receive by-right or conditional zoning approval. Its unobtrusive form and ability to be customized to reflect or complement the exterior appearance of adjacent dwellings make The Abbot ADU an easy choice for creating additional living spaces on an existing residential lot.

The Abbot Model B – Barrier Free

This two-bedroom/one-bathroom, side-gabled cottage is intended for ground-level placement. If it was built 80 years ago, in the era of housing crunch created by World War II, this small home would be called a Minimal Traditional. This modest home features a centered primary entrance that can be covered with a simple pent roof to provide shelter from inclement weather. The porch overhang, a small detail of modest proportions, creates both functional shelter and visual definition for this diminutive dwelling.

Taking into consideration the potential current or future needs of occupants with varying levels of mobility, it is possible for this version of The Abbot to be constructed entirely barrier-free.



The Abbot Barrier Free has been designed in compliance with the Universal Building Code, including barrier-free entrances, door widths with appropriate clearances, wider turning radiuses in the kitchen and bathroom, optional grab bar installations in key areas, power outlets located at accessible heights, and alternative cabinet configurations in the kitchen to accommodate a lower counter workspace. These built-in accommodations add only negligible costs at the time of construction and pay off with greater flexibility in the future. While immediate occupants may not need such design features, taking a longer view of building use over time will result in a more broadly useful dwelling that can be redeployed again and again as occupants or their needs change over the course of several decades.



Potential lot placement and siting options for The Abbot Barrier Free include single module construction on lots as narrow as 30 feet in width, construction as a secondary dwelling near a primary dwelling with lot placements like The Abbot ADU, or the arrangement of several free-standing modules in a cottage court—the ultimate custom playlist. Other potential configurations include the construction of side-by-side duplexes or the arrangement of several modules in one connected row.

When building several of The Abbot B units in a connected site plan, it is important to follow specifications for International Building Code residential standards and build an appropriate 2-hour rated wall between units.

Alternative wall configuration elevations are also provided to enable either blank walls or windows to be included, depending on site configurations. See the Contract Documents for further details.

Stories

Modules

	ONE	TWO	THREE
ONE	<p>1 Family <i>The Abbot</i></p>	<p>2 Family <i>The Abbot</i></p>	<p>3+ Family <i>The Abbot</i></p>
TWO	<p>1 Family <i>The Baxter</i></p>	<p>2 Family <i>The Baxter</i></p>	<p>3+ Family <i>The Baxter</i></p>
THREE	<p>1 Family <i>The Capitol</i></p>	<p>2 Family <i>The Capitol</i></p> <p>NOT PERMITTED</p>	<p>3+ Family <i>The Capitol</i></p> <p>NOT PERMITTED</p>

Key:

- 1 hr. rated wall
- 2 hr. rated wall
- 1 hr. rated floor/ceiling

The Baxter – Side-by-Side Duplex

The Baxter is a charming double album of a house. It features a moderately pitched side gable, wide overhangs to shade its numerous windows, and an efficiently located main entrance positioned off to one side of the primary elevation for optimal circulation efficiency. It is inspired by the linear side-by-side housing options of townhomes popular in the first several decades of the twentieth century up until the immediate post-World War II era.

Featuring twinned living spaces, this model can accommodate all manner of households. From separate, unrelated folks living side-by-side to close friends with separate living spaces to convenient co-location for multiple generations, a double home like this one can serve many kinds of occupants. This model can be built separately, side-by-side, or in multiples.



Townhouse

A single-family dwelling unit is constructed in a group of three or more attached units in which each unit extends from foundation to roof and with a yard or public way on not less than two sides.

Each townhouse shall be considered a separate building and shall be separated by a 2-hour rated wall assembly.



Potential lot placement and siting options for The Baxter include single module construction on lots as narrow as 30 feet in width, construction as a secondary dwelling near a primary dwelling with lot placements like The Abbot ADU, or the arrangement of several housing modules in a row like townhomes. Like The Abbot, when building more than one of The Baxter units in a connected site plan, it is important to follow specifications for International Building Code residential standards and build an appropriate 2-hour rated wall between units. Alternative wall configuration elevations are also provided to enable either blank walls or windows to be included, depending on site configurations. See the Contract Documents for further details.

The Capitol – Familiar Form in a Downtown Genre

While its initial visual read may be a bit unexpected, upon closer review, The Capitol's layout is actually a genre fusion based on familiar downtown forms. Similar to hybrids like rhythm & blues, rap rock, and ska punk, this housing form is born out of adaptation.

The Capitol takes its inspiration from traditional Main Street building types which have first-floor commercial spaces with residential spaces on top. Known in contemporary parlance as "live-work" units, this duplex is a modern take on an enduring format.

The first floor is a barrier-free living space topped by a two-story unit of larger square footage. This slender, side-gabled building can be slipped into narrow lots, located on side frontages, and built in neatly separated rows forming small alley spaces in between. See the matrix of potential configurations for more options.



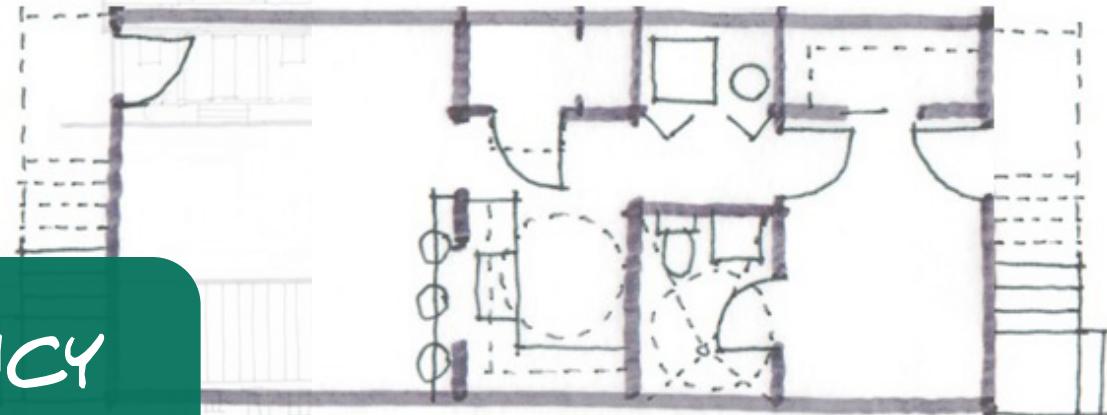
Disclaimer: The drawings found within this set are Substantially Complete and are marked "Not for Construction," as it will be necessary for each site-specific development to employ architects and/or engineers to evaluate local conditions, make necessary adjustments and provide final stamped plans for local permitting. Individuals using these drawings shall seek any necessary professional services before starting the building process.





HIGHER FIDELITY: ENERGY EFFICIENCY

In addition to this expanded catalogue of plans, Volume II of this project delves deeper into the simple and subtle construction choices that can be done to increase building energy efficiency. The goals are to reduce carbon consumption, improve building comfort, and save on operating costs all at the same time. The design team approached this challenge with care, including green building standards, without killing the groove by straying into overinvesting.



The outcome is that these homes are more energy efficient than traditional models, cost about the same or less than stick-built homes, and still blend in with regionally typical design forms, massing, volume, and setbacks. Talk about getting a bigger bang for your buck! They're a way better value than those BMG Album subscriptions from the mid-1990s. Although these plans have been created to help meet pressing housing shortages, they also look to the future.

The structures are intended to last for 75-100 years, rather than a short-sighted 25 years, while keeping costs low. They also emphasize efficient square footage, reducing construction time while lowering labor and energy expenses. By building multi-unit structures that experience less thermal loss between units, less insulation in interior walls is needed, meaning each unit is more energy efficient.

The plans also recommend the use of durable, repairable materials that have lower environmental impacts. Flexibility in the provided plans allows for the incorporation of sustainable elements, including options for homes to be solar-ready, electric vehicle-ready, and even zero energy-ready. More explicitly, cladding choices such as HardiePlank clapboards or shingles, stucco, and/or masonry veneer are far preferable to vinyl or other low-end finishes due to their durability, repairability, and environmental impact. Roofing should be dimensional asphalt shingles.

Systems Will Evolve Over Time

The materials, conditions, and mechanical systems included in these designs are thoughtful, not too expensive, and designed to be adapted over time as mechanical systems evolve in the future. While technology may continue to improve efficiency and cost attainability over time, the most practical and pragmatic selections have been made at the time of publication, using as many standard formats and measurements as possible to allow for future replacements or upgrades as necessary over the projected life of the building. These choices are made with the full expectation that mechanical systems will continue to evolve, and product durability will continue to improve.

Tax Credits and Rebates

Federal tax incentives made available through the Inflation Reduction Act (IRA) can help cover costs associated with green building. Like technology, program requirements evolve over time. Most will maintain eligibility standards focused on explicit qualifications for house construction (like building envelope) and equipment inside (like heat pumps, appliances, etc.).

New single-family homes (including detached dwelling units, duplexes, and townhomes) that meet the requirements of the Energy Star Program can earn a \$2,500 tax credit. Homes that obtain certification from the Zero Energy Ready Homes Program (ZERH) in addition to the Energy Star designation can receive a \$5,000 credit.

These tax credits can be claimed through 2032. Many of the recommendations in this section align with the requirements of both the Energy Star and ZERH programs. Refer to program websites (available in the Liner Notes) for the most up-to-date information. In addition, many utility programs offer rebates for more energy efficient mechanical systems, which can be combined with tax credits to further reduce upfront costs of green building. DTE and Consumers Energy both offer energy rebates within their respective service territories to home builders participating in their New Homes Programs. Rebates can help cover the cost of installing mechanical systems, as well as building insulation and lighting.

Builders participating in the program may also be eligible for energy performance incentives and supplemental bonuses for Energy Star homes. See resources in the Liner Notes for details about program requirements.

Federal tax credits are also available to homeowners to help subsidize the cost of installing solar panels. Available credits can cover 30% of panel installation costs.

See the Liner Notes at the end of this publication for more information.



Building Envelope

The building envelope laid out in these plans was designed with an emphasis on energy efficiency, ensuring that both windows and doors meet the Energy Star Program certification requirements for both insulation levels and infiltration rates to qualify for tax credits.

Each unit is designed for the use of Structural Insulated Panels (SIPs), allowing for a durable, economical, high-performance building system. In comparison to traditional timber framing, SIPs can be about 50% more energy efficient. SIPs also require less energy throughout manufacturing and offer lower embodied energy than typical construction materials, like steel, concrete, and masonry. These panels are manufactured offsite and go up quickly on site, and as such, they can reduce overall labor costs by up to 55%.

One of the few downsides of SIPs, however, is their vulnerability to puncture. This scratch in the track can be fixed with a slender layer of additional drywall cocooning, resulting in even greater sound and thermal insulation while scarcely sacrificing dimensional thickness. Regardless of this need for slight shifts in construction methods, SIPs also help meet building envelope requirements necessary for receiving tax credits through the Energy Star Program and result in a much lower energy bill. The integration of energy-heel trusses in site plans is also recommended in these plan sets, resulting in improvements in energy performance. Using this type of truss rather than a conventional truss provides better ventilation and maximizes the effectiveness of insulation.



Heating Electrification

The current trend toward electrification has been made possible in recent years due to the increase in efficiency and affordability of appliances that were almost universally natural gas-powered in past decades.

With a growing recognition that electrifying homes improves the health and safety of residents and reduces carbon footprint, many builders are already moving beyond gas. Builders and trades experts are finding a simpler installation pathway and easier accommodation for appliances in tighter spaces for less installation cost. Why is this? Because there is no need to vent them. These plans recommend installation of electric systems, like heat pumps, so that homes are better prepared for the phasing out of traditional heating and cooling systems (like certain kinds of refrigerant-based AC units), which is projected to occur in the coming years.

HEAT PUMPS:

There has been a great advancement in the availability, effectiveness, and reliability of electric-based heat pumps. Heat pumps are a more energy-efficient option than furnaces and air conditioners for heating and cooling. They move heat between outdoor and indoor spaces depending on the season, saving energy by transferring rather than generating heat.

This new wave of appliances is an about-face from the technology of the mid-to-late 20th century, which was wildly costly, inefficient, far less effective in below-freezing conditions, and prone to safety hazards. Since the early 2010s, the air-to-air heat pump has steadily increased its market share, not only in warmer climates as a competitive air conditioning solution but also in northern latitudes experiencing typical winter conditions.

INVERTER REVOLUTION:

This radical shift from abysmal efficiency to superior performance is due in part to the presence of far more capable inverter compressors. These components have varying capacities that are substantially more efficient than the typical natural gas furnace, with good stats in ambient temperatures as low as -15 degrees Fahrenheit. That's right: these units work well in conditions as low as minus 15 degrees. When the mercury drops below that threshold, a second-stage heater can be brought up to speed to fill the gap.

It's important to note that, like any change over to a new technology, behavior and performance expectations must be adjusted. For every hour of constant use, the compressor must cycle down for 6 to 8 minutes to melt ice accumulation on the exterior of the unit. For those who do not wish to let the heat pump "have a breather," an electric resistance heat coil can be employed automatically as a backup to compensate.

COST:

The installation costs for these types of heat pump units are about the same as those for installing a traditional forced-air, natural gas furnace and electric air conditioning system. The initial purchase cost for the unit is slightly higher, but the return on investment (ROI) makes up for that up-front investment within only a few years of use. Conversely, there will be more labor and materials to install the gas piping and venting for the furnace, but the cost of the equipment may be slightly less. Depending on the manufacturer, the electrical requirements of the gas furnace may be lower, which could result in some savings as well.

This gap in cost can be further brought down by Federal income tax incentives. Investing in a heat pump may meet Energy Star Program requirements necessary to receive a tax credit.

Plumbing Systems

Throughout this set of designs, water conservation is a core value of construction. It costs nothing to swap out standard fixtures for low-flow designs.

Courtesy Flush: A 1.1-gallon toilet can be chosen over a more typical 1.6-gallon model. While the 0.5-gallon difference is negligible, and if needed, an additional flush can be employed, the cumulative effect of water usage savings is substantial.

Lower Flow, Higher Performance: The same can be said for lower-flow faucets and showerheads. In fact, 1.5 gallon to 1.8 gallon/per minute fixtures with aerated heads are proven to have greater user satisfaction, better performance, and easier maintenance than higher consumption fixtures.

Hot in a Hurry: On-demand water heaters have a lower boil point, heat only what is needed when it's needed (thereby lowering operation costs), take up far less space, and save on installation costs by requiring zero venting accommodation. Installing electric water heaters that meet Energy Star requirements can advance progress toward Energy Star program certification.

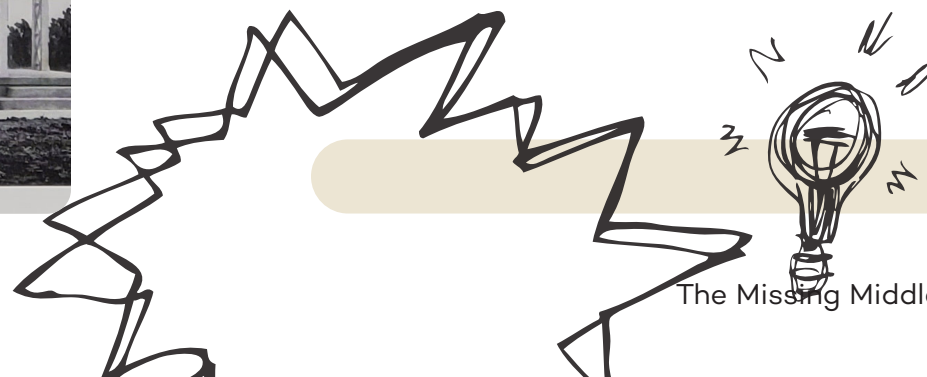


Electrical Systems

These building specifications all include LED lighting selections. Like all other forms of technology, LEDs have come a long way in recent years – on both performance and cost. One of the best breakthroughs on this front has been the ability to choose the visual temperature of LED lights. No longer limited to the cold, blue light of 2700 to 3000 Kelvin, LEDs can now be adjusted to typical daylight temperatures of ~5000 Kelvin or any number of choices in a spectrum of light colors to accommodate the desired mood and feel of a room. The perfect accompaniment to getting your groove on with an evening of easy listening. And this LED lighting is 60 to 70% more efficient than traditional incandescent lights with a product lifespan of 3 times longer.

Updated building codes have driven greater efficiencies in commercial construction, which have spilled over to residential. With the expansion of the Smart Home movement, householders can choose to engage with many practical applications ranging from automatic timers and motion sensors to audible modifications and other bells & whistles.

Slight electrical system modifications can be made to ensure these pattern book homes are electric vehicle (EV) ready as well. It is a best practice to leave room for more fuses in the electrical panel to accommodate future expansion for electric car charging stations and other appliances. To further prepare for electric vehicles, run conduit to prepare for the installation of an electric vehicle charger can be pre-installed.



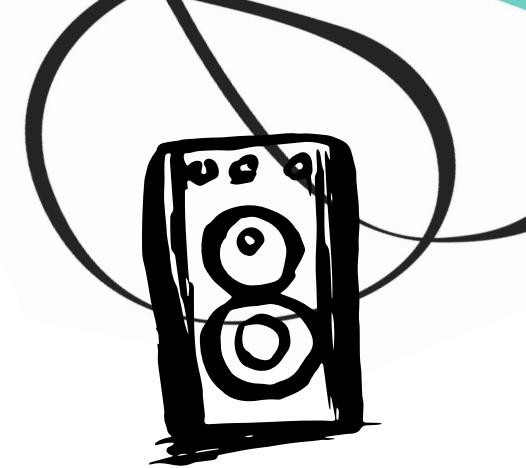
The page features several architectural sketches of houses. A large blue highlight covers the top half of the sketches. A tan-colored text box with a torn bottom edge is overlaid on the blue area. A black arrow points from the text box towards the right side of the page.

A VERY SUBTLE ART: LOT PLACEMENT

Using Multiple Patterns on a Lot

Lot placements and design, done well, recede into the background like a perfectly executed track fade.

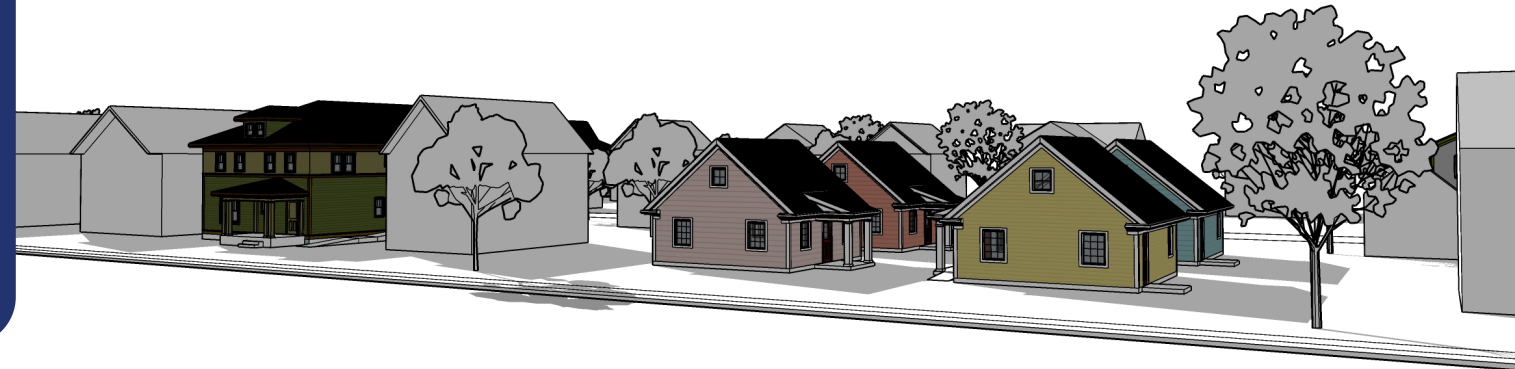
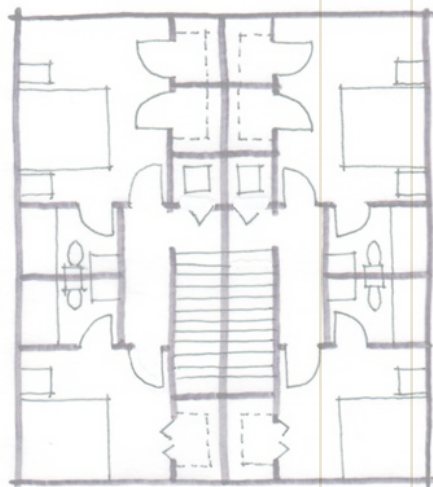
More than one of the patterns may be used on a single parcel where zoning allows. This could be as basic as a homeowner building **The Abbot** cottage or garage/apartment unit in their backyard as an accessory dwelling, but it could also be multiples of **The Abbot** or **The Baxter** homes constructed in a line as townhomes or as a cottage court—a U-shape around a central shared green space—or a pair of **The Capitols** side by side on a lot.



Each construction plan set includes several sample site plans showing how that home can be arranged on a site, whether alone, with an existing building, or with multiple new homes on a site. These represent only a few of many potential configurations: **these samples can be remixed into any number of single-parcel or larger development site plans.** The sample sites are not dimensioned; the tables below provide the footprints of each home type for use in creating layouts.

As discussed above, building codes will allow **The Abbot** cottage and **The Baxter** homes to be put together as connected townhomes if the appropriate rated wall option from the plans is used. Any other combination may be used together on a parcel as long as they are placed to have at least the five feet of horizontal separation required under building codes between their nearest points. This measurement includes gables or porches. For the patterns offered in this guide, the minimum horizontal separation under building code will typically be at least eight to nine feet wall-to-wall.

Municipalities that wish to use these plans to support increased housing availability and choice should review their zoning ordinances to ensure the desired development is possible.



In addition to factors such as parking requirements, setbacks, and lot coverage that may restrict any new homes, placing multiple structures on a single parcel may run afoul of additional restrictions. Check your zoning ordinance for prohibitions on locating one home in the rear yard of another or for building-to-building setback requirements. **The building code requirements for building separation are adequate to ensure airflow, light, and access;** adding zoning requirements for additional building-to-building setbacks is unnecessary and likely counterproductive.

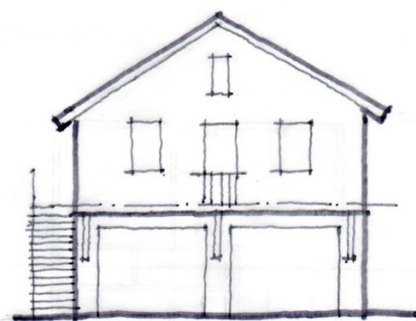
For more information about performing a stress test on your existing zoning code or simple fixes to residential zoning code that help enable gentle density, consult our first publication, *This Used to Be Normal: Pattern Book Homes for 21st Century Michigan*.

The Abbot

The Abbot Remix: Paired-Duplex Cottage Court

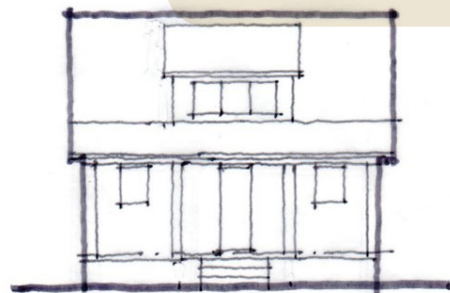
The Abbot cottages may be combined into a duplex, with the main porch facing a side lot line, and the second doors facing the front and rear of the parcel. This two-home pair may be then mirrored on a larger lot or an adjacent lot, creating a shared semi-private green space between the two. In the site plan below, the shaded portion of each unit represents the active

living space—living room and kitchen—buffering the bedrooms from street noise or backyard activities. This arrangement is possible on lots as narrow as 45-feet each, assuming five-foot side setbacks, creating a pocket neighborhood perfect for offering empty nesters or young singles a sense of community, or providing multi-generational living opportunities.



24 ft*
Building Width

625 ft²
Total Floor Area
680.5 ft²
Total Footprint



26 ft*
Building Width

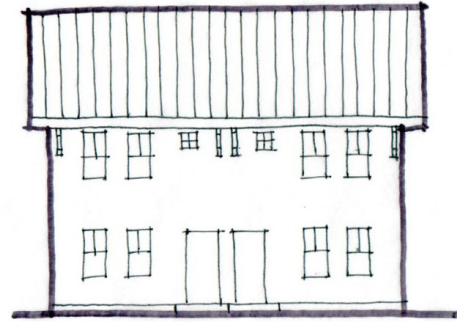
625 ft²
Total Floor Area
696 ft²
Total Footprint

	The Abbot A – Above Garage	The Abbot B – Cottage
Footprint	680.5 square feet	696 square feet
Dwelling Floor Area (heated)	625 square feet	625 square feet
Height (to mid-roof gable)	23' 11.5"	14' 4.5"
Width	24 feet + 3' stair	26 feet
Depth	26 feet	24 feet + 6' 2" porch

The Baxter

The Abbot or The Baxter Remix: Townhome Row

The Baxter model is designed as a side-by-side duplex, but the plans also include an option for 2-hour-rated side walls separating the homes. Similarly, The Abbot cottage plans include options for 2-hour rated side walls. This allows multiples of The Abbot or The Baxter sections to be connected together as townhomes if a larger site or multiple parcels are available. Townhomes may be sold as individually-owned fee simple homes, where the zoning allows for narrow enough parcels, maintained as rental homes, or owned as condos, depending on local community needs.

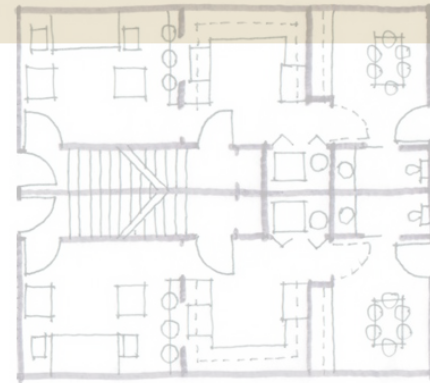


32 ft*
Building Width

1,152 ft²
Total Floor Area
576 ft²
Total Footprint



36 ft*
Building Depth



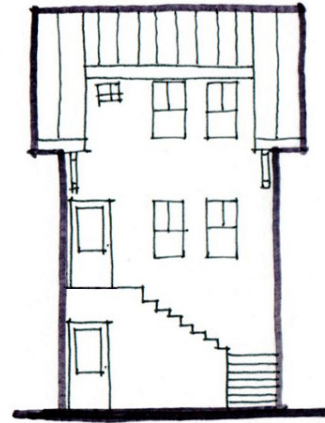
	The Baxter - Two-home	The Baxter - Per Dwelling
Footprint	1,152 square feet	576 square feet
Dwelling Floor Area (heated)	2,304 square feet	1,152 square feet
Height (to mid-roof gable)	22 feet mid-gable, 27 feet peak	22 feet mid-gable, 27 feet peak
Width	32 feet + 4-ft gable overhangs	16 feet
Depth	36 feet + 4-ft gable eaves	36 feet + 4-ft gable eaves

The Capitol

The Capitol Remix: Detached Townhomes

The Capitol is designed for skinnier parcels—fitting lots as slender as a 30-foot-wide parcel with a front-loaded driveway—but its narrow footprint also potentially allows multiples of The Capitol to share space on a larger parcel.

Accounting for the separation between buildings required by fire code, two of **The Capitols** have a footprint 41 feet wide, and could fit on a 60-foot lot with room for driveway and side setbacks. Three of **The Capitols** together have a footprint 66 feet wide and could fit on a pair of 40- or 45-foot lots. While the detached townhome arrangement doesn't offer the energy efficiency benefits of shared side walls, this ability to place multiples of **The Capitols** allows for potential cost-savings by making compact use of land, and by potentially allowing efficiencies in construction mobilization.



32 ft*
Building Width
1,728 ft²
Total Floor Area
768 ft²
Total Footprint



	The Capitol
Footprint	576 square feet + 192 square feet porches/steps
Dwelling Floor Area (heated)	1,728 square feet (576 + 1,152)
Height (to mid-roof gable)	28'9" mid-gable, 31'8" peak
Width	16 feet + 4 feet gable overhangs
Depth	36 feet + 23'11" porches/steps

Solar Considerations

Appropriately orienting buildings on a site –individually or in combination–can allow for passive and solar energy. Building layout decisions can facilitate energy conservation by maximizing daylight but minimizing summertime heat. And landscaping choices can have significant impacts on energy and water use.

Achieving the best building layout may require rotating and/or mirroring the established floor plans in these models. In the construction documents, the shaded areas indicate the location of the primary living spaces in the building: the Kitchen/ Dining Room and the Living Room. Use landscaping to protect the house from winter winds to allow winter solar gains and daylighting while shading and cooling in the summer. The West and South facing elevations should be protected from summer sun and shaded with plantings. Porches, arbors, and other similar shading devices can also provide effective thermal diffusion.

Southern exposures should be clear of any obstructions, except for deciduous trees that provide relief from the summer sun. East and West-facing windows can cause the most summertime heat and should be minimized (as an option). Similar to large shading structures, operable shutters are a less expensive option for controlling sunlight and radiant heat. They can be an attractive addition to any building and can be found in a variety of styles to match the building.

Active solar energy, in the form of solar panels, will allow for greater independence and stability of cost overheads in the face of fluctuating energy costs, more economical choice, and greater adaptability of the grid. Battery backups for generators and solar arrays are rapidly evolving, improving the feasibility of residential solar power. Lightning protection is also critical to consider when installing solar panels, as power inverters are vulnerable to damage if not properly protected.

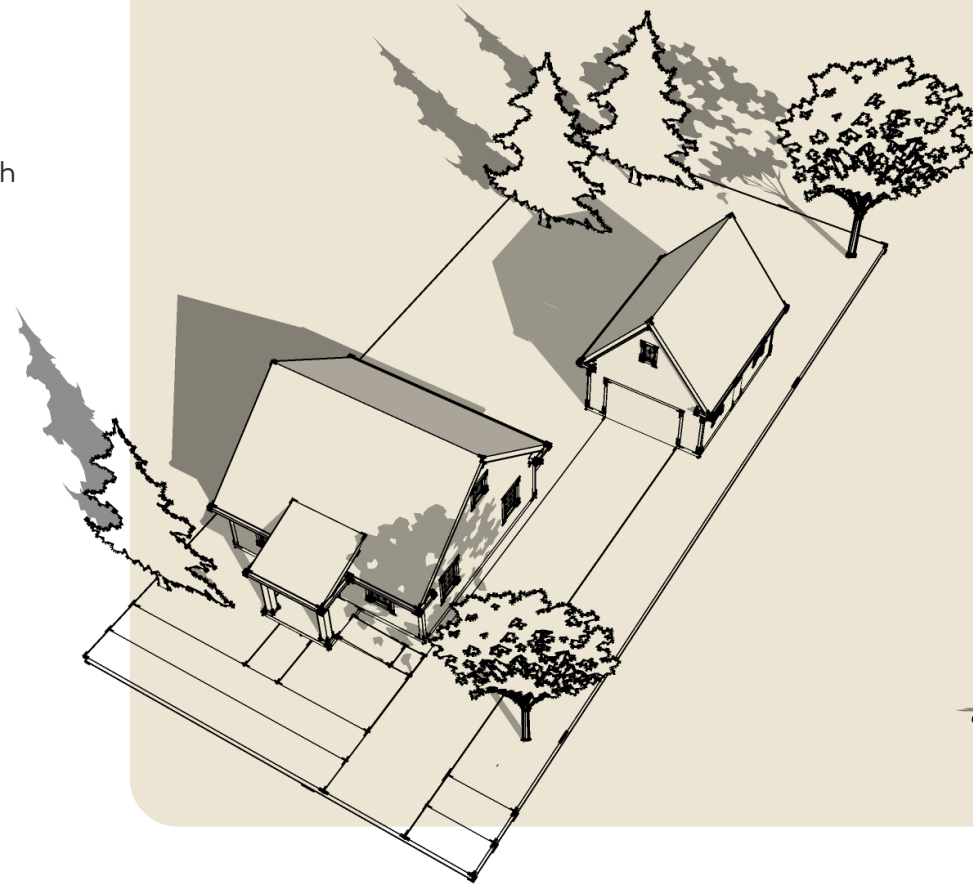
Interior space design: Kitchens and living spaces should be located to the South and closets and mechanical space to the north. East and West facing windows should be avoided, when possible, to reduce the impact of summertime heat.

Exterior space design: South and west-facing porches are ideal for temperature swings. Deep overhangs can aid in blocking high summer sun, while allowing for low-altitude winter heat gain. Constructing light-covered fences at the North side can provide reflected daylighting. Maintaining natural ground cover and avoiding concrete at the South side can reduce reflected summer heat gain. If onsite solar is not desired, offsite solar can also be purchased at a community solar park. Another option for harnessing renewable energy is to build a community geothermal district of a multi-family community or by linking smaller groups of individual homes. Since these models can be combined in cottage court or other small communities, shared geothermal may be a good option.



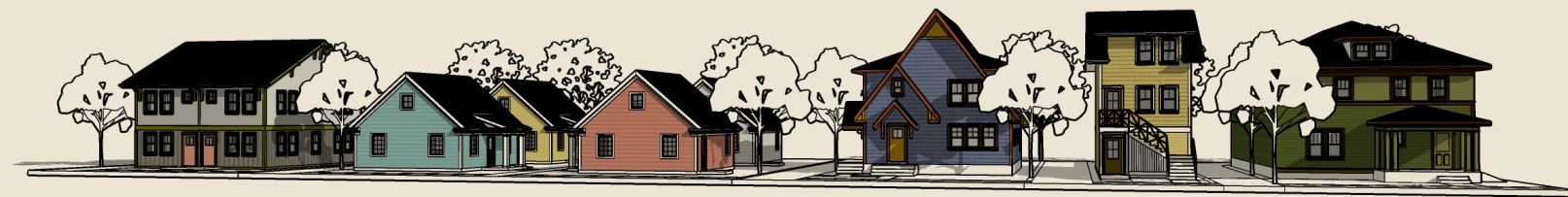
Landscaping Options

Plantings: Site-specific landscaping choices at the site can reduce the need for added water and enhance shading and cooling in summer, as well as shield structures from winter winds. West and South facing elevations are ideal locations for plantings, including arbors. Southern exposures should be kept clear of any plantings other than deciduous trees that can provide protection from summer sun. Whenever possible, opt for native plants to help reduce water runoff. Landscaping decisions should consider the unique features of the site's microclimate. These include factors that influence whether the site may receive more sun, shade, wind, rain, snow, moisture, and dryness compared to nearby other environments.



Limit impervious surfaces: When possible, limit the introduction of impervious surfaces, such as concrete, by installing gravel or permeable concrete driveways, paving with permeable pavers, and creating paths with pea gravel. These pervious surface alternatives allow water to soak through the surface to the ground water below, reducing runoff pollution.

Capturing rain and runoff: Use of eavestroughs and downspouts to capture rainwater in rain barrels, raingardens, or cisterns will reduce runoff, helping to preserve topsoil and reducing the volume of water treated by municipal storm sewers. Rain barrels and cisterns can be used to supplement the home supply as needed for gardening. Rain gardens redirect water flow through the ground rather than to a municipal drainage system, reducing nonpoint source pollution and having the added benefit of creating attractive flowering garden spaces.



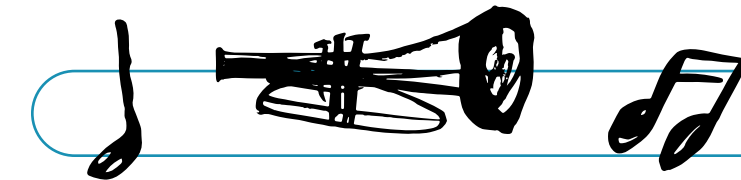


PRESSING PLAY: FUNDING TOOLS

Just because smaller-scale and multi-family housing isn't being constructed as frequently as larger single-family homes doesn't mean that there's a lack of demand. This kind of album has a cult following, snatched up from the Record Store shelves before it can even be restocked. And the next generation of home dwellers is lining up around the block.

To effectively fund new smaller-scale housing, it is important to aggregate funding from a variety of public and private sources. This can involve working with not only lenders but also government agencies at the local, state, and federal levels to work out incentives, secure grants, and create other funding opportunities. It can also involve partnering with private investors, foundations, and other organizations that are interested in supporting housing as infrastructure projects. If green building standards are also folded into these projects, they can be an even bigger win for communities seeking to reduce their overall carbon footprint.

Missing Middle Housing is trying to release its big comeback album. Instead of finding a record label deal, it just needs financing tools for ideas that are currently under-marketed or simply absent from the airwaves. A little-known fact among buyers is that two-, three-, or four-unit housing options can qualify for a standard FHA loan. And even in the tightened credit landscape of the 2020s, single-family home financing is still abundant and accessible.



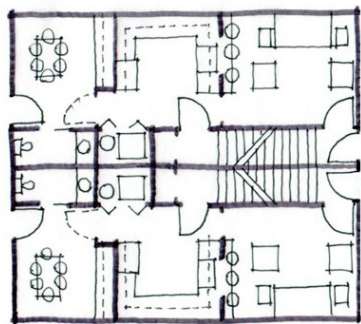
Like finally reading the lyrics in detail after years of blissfully singing “Hold Me Closer, Tony Danza,” and realizing that they’ve had the words wrong all along, it’s starting to dawn on buyers and developers that more housing of this kind could be built.

That is, if zoning is updated to allow them by-right. This is doubly true for smaller-scale developers who are trying to make their first break-out hit.

Program rules vary widely from lender to lender. Something that can be banked on, however, is that funding sources and incentive programs will alter and drift their requirements over time. Rather than offer a directory of funding sources, this section provides an overview of solid and legitimate financing tools to consider in playing your Missing Middle mixtape.

Federal Housing Administration (FHA)

An FHA loan is one of the most popular kinds of housing loans available. They are often known for owner-occupied residential but as mentioned already, this loan type can be used to purchase or build up to four units at once and can also be a way for smaller-scale developers to enter the market. This kind of loan can be used for acquisition, rehab, and new construction. Backed by the Federal Housing Administration, FHA construction loans have a minimum 500 credit score requirement with a 10% down payment. For those with a higher credit score, a down payment can be set at as little as 3.5%.



Acquisition Loan:

A mortgage that can be used to purchase up to 4 housing units at once.

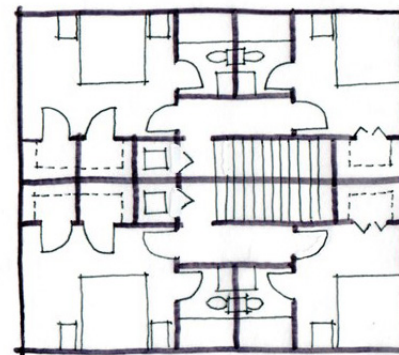
Construction Loans:

Mortgages that enable an applicant to roll in the costs of rehabbing a home or building a home from the ground up. There are two types of FHA construction loans: the construction-to-permanent loan and the FHA 203(k) loan.

- **Construction-to-permanent loan:** Typically called a construction-to-perm loan, this is an all-in-one FHA loan to build a house. The costs of buying the land, paying for the construction, and covering the lender fees can all be rolled into one loan.
- **FHA 203(k) rehabilitation loan:** the FHA mortgage program offers two renovation loan options, which can be used to buy or refinance a fixer-upper home.

Federal Home Loan Bank

Operating through its regional banks, this Federally-backed loan bank system was created in 1932 by the Federal Home Loan Bank Act. The Act was intended to lower the cost of home ownership by creating a network of government-sponsored banks and boards to provide mortgage credit. A mission-oriented entity, the FHLBank serves as a government-sponsored enterprise to support mortgage lending and related community investment. The FHLBank of Indianapolis serves Indiana and Michigan.



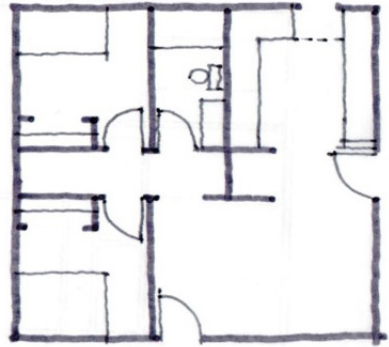
Affordable Housing Program (AHP): These FHLBank funds can be used for new construction or rehab, down payment assistance, and owner-occupied repairs.

- Under the FHLBank Act, the specified uses of AHP funds are to finance the purchase, construction, or rehabilitation of owner-occupied housing for low- or moderate-income households (with incomes at 80 percent or less of the area median income).
- These funds can also be used for the purchase, construction, or rehabilitation of rental housing where at least 20 percent of the units are affordable for and occupied by very low-income households (with incomes at 50 percent or less of the area median income).
- This program can leverage up to \$60,000 per unit for any allowable activity listed above

State of Michigan Land Bank Authority

This statewide landbank serves to create a positive economic impact on Michigan communities by facilitating the productive reuse of land. Created in 2003 with the Land Bank Fast Track Act, this agency directs blight elimination funds that can be used for not only demolition but also new construction or home rehab.

At the time of publication in Fall 2023, this agency offered the following funding programs:



Predevelopment Investment Program

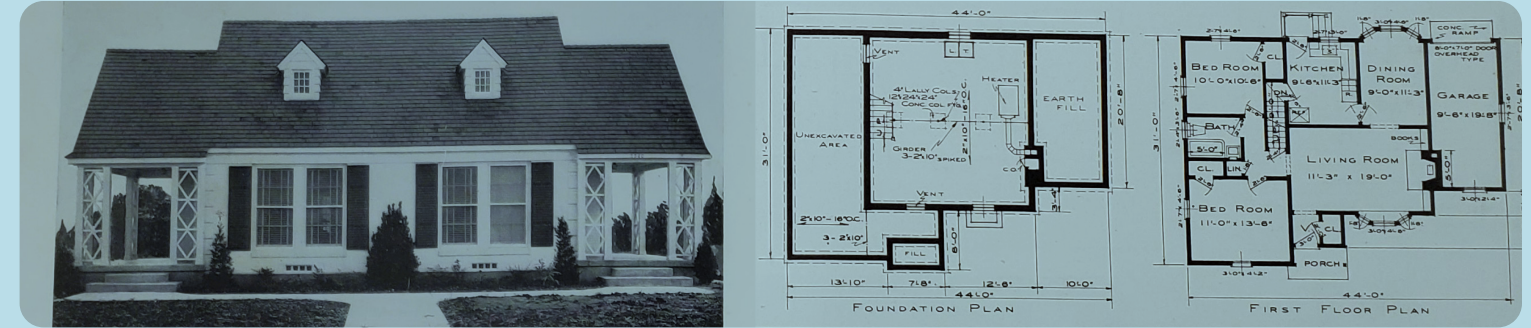
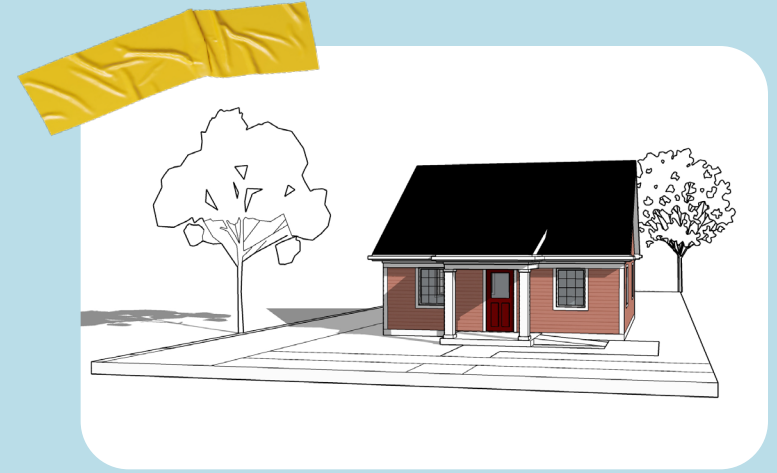
- Up to \$10,000 is available per home to qualified entities to cover the costs of certain predevelopment activities for residential development.
- This initial pilot program prioritizes funding for developments that involve county land banks working on their first housing development project and on developments involving successful respondents to recent Requests for Qualifications (RFQ) for developers.
- Applicants must commit to using the SLBA's Housing Loan Program; should the applicant not use the Land Bank's Housing Loan Program, the investment dollars shall be repaid within 12-18 months when a TIF bridge loan is received.

Eligible Applicants:

- Local Units of Government (City, Village, Township or County}
- County or City Land Bank
- Qualified Housing Developers
- Other Program Partners

Housing Development Loan Program

- Local units of government and qualified housing developers in Michigan can get help developing property in their inventory for housing with support from the State Land Bank Housing Development Loan program. These short-term loans provide capital to develop housing projects with the intention to sell the property after development.
- Any local units of government or qualified housing developers seeking funds from the loan program can begin the application process to receive available funding.



Michigan State Housing Development Authority (MSHDA)

The Michigan State Housing Development Authority (MSHDA), established in 1966, provides financial and technical assistance through public and private partnerships to create and preserve safe and decent affordable housing, engage in community economic development activities, develop vibrant cities, towns and villages, and address homeless issues.

At the time of publication in Fall 2023, this agency offered the following funding programs:

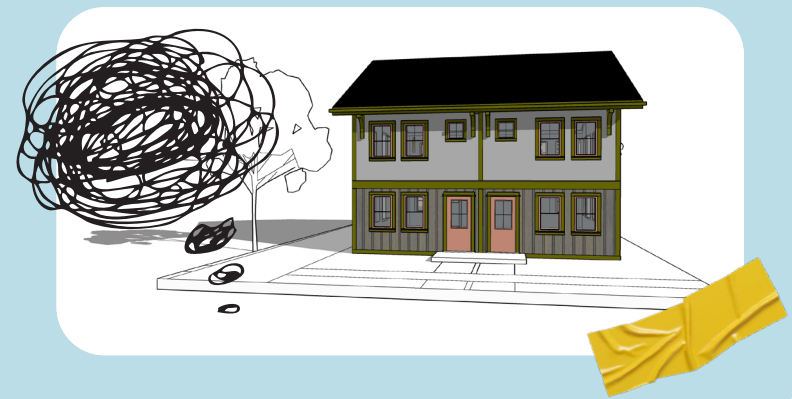


Missing Middle Housing Program (MMHP)

- This housing production program is designed to address the general lack of attainable housing and increase the supply of housing stock in Michigan. It leverages Federal funds for cost defrayment to developers investing in, constructing, or substantially rehabbing properties targeted to Missing Middle households.
- Missing Middle grants are designed to help reduce construction costs by funding gaps in eligible projects. The grant amount is limited to the actual labor and material cost of the construction or rehabilitation, with a maximum award of \$80,000 per unit for projects of less than 12 units (i.e., 11 units or less) and \$70,000 per unit for all others.
- The plans created by Pattern Book Homes align squarely with this program's inclusive design requirements, "visitable" options for Universal Design, and focus on smaller-scale homes below 2,000 sf in size.

Low-Income Housing Tax Credit Program (LIHTC)

- Approximately half of the projects financed by FHLBank of Indianapolis funds in this region are combined with Low-Income Housing Tax Credits (LIHTC), with 20% of that number concentrated in rural areas.
- These funds can be used by private developers for new construction or rehabilitation.
- Generally known as a more complex financing structure, all projects using these funds are managed by MSHDA with annual application deadlines and competitive scoring.





INSTANT HITS: BEST PRACTICES

Funding tools change over time. A portfolio of homes that can be used by Michigan residents for the next several decades is, without a doubt, worthy of investment. Cueing up the funds, however, isn't as easy as building a mixtape.

Programs designed to assist in the creation of Missing Middle housing can dramatically offset the cost of construction. As explored in the previous section, only a limited number of financing tools are presently available for smaller-scale multi-unit housing developers or projects with building sites larger than four housing units.

While new solutions to housing financing are released every day, here's an overview of the current greatest hits for getting the project built:

Targeting Neighborhood Enterprise Zones (NEZ)

In 2022, Michigan expanded its Neighborhood Enterprise Zone (NEZ) tool to be available in all communities. This tool allows local governments to designate specific blocks or neighborhoods to receive property tax abatements for the development or rehabilitation of owner-occupied single-unit homes, duplexes, and condominium units. New and rehabilitated facility applications are filed, reviewed, and approved by the local unit of government.

Previously limited to only certain qualified communities, the expansion allows NEZ to be used in any place that has at least five homes per acre and existing public infrastructure. By directing new development adjacent to existing infrastructure, NEZs can contain sprawl, encourage more efficient land use with infill of scattered or connected sites, and avoid disjointed development.

Using Tax Increment Financing (TIF) for Housing

In Flint's Carriage Town neighborhood, Michigan Community Capital and the Uptown Reinvestment Corporation created six new homes: two sets of duplexes and two single-family homes. They accomplished this feat by layering traditional financing with philanthropic support, then filling the gap between the cost of construction and affordability for market rate. Details on how to construct this innovative financing design can be found in the *Housing IS Economic Development: Community Housing Solutions* publication from the Michigan Economic Developers Association (MEDA).

Locking in Affordability with Community Land Trusts

Dwelling Place of Grand Rapids is developing new, single-family homes in the Garfield Park neighborhood. Vacant land will be transformed into 42 new homes, new human-scale walkable streets, and public greenspaces using a Community Land Trust model. This nonprofit organization is governed by a board of directors made up of 1/3 housing residents, 1/3 community representatives, and 1/3 Dwelling Place Board Members. This arrangement provides both lasting community assets and shared equity homeownership opportunities for families and communities.

How a Community Land Trust Works

A typical community land trust for affordable housing works like this:

1. A family or individual purchases a house on land owned by the community land trust.
2. The purchase price is more affordable because the homeowner is only buying the house, not the land.
3. The homeowners lease the land from the community land trust in a long-term (often 99-year), renewable lease.
4. The homeowners agree to sell the home at a restricted price to keep it affordable in perpetuity, but they may be able to realize appreciation from improvements they make while they live in the house.

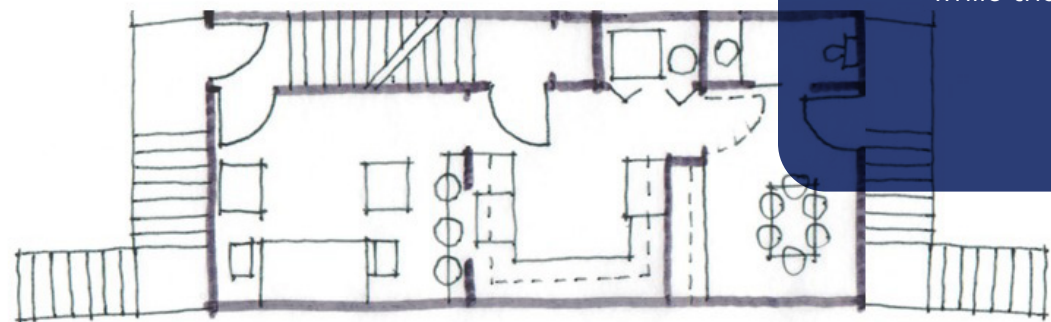
Buying Down the Cost of Financing

InvestUP's interest rate buy-down Cash Collateral Program uses Federal funds as a loan loss reserve fund to help fill a gap in development financing. It is designed to address collateral shortfalls that would otherwise not allow a qualified lender to provide financing for new housing or rehabilitated housing development in the Upper Peninsula of Michigan. With Invest UP putting up a failsafe for lienholders, qualified housing developers can access interest rates that are more favorable and make their numbers work.

Paying People to Build

Not all the good ideas are just in Michigan. Further afield, the New York State's Plus One ADU Program is an initiative to create and improve Accessory Dwelling Units (ADUs) across the state. It provides up to \$125,000 per project to offset costs and create gentle density in existing neighborhoods by sending pass-through grants to units of local government and not-for-profit organizations that are committed to crafting community-specific programs for generating safe, quality ADUs.

This program does not pre-empt local zoning; rather, it empowers local units with the capacity to direct development where it's wanted. By working with units of local government and community development partners, Plus One ADU will provide a full-service program to support low- and middle-income single-family homeowner occupants who wish to build a new ADU on their property or improve an existing ADU that needs to be brought into compliance with local and state code requirements. Depending on the property and what the locality permits, ADUs may be small, stand-alone (detached) units on single-family lots, basement apartments, garage conversions, or other permitted units.





MIC DROP

The current playlist is played out and needs to be reshuffled. Communities must step up to add to the forms of housing that's wanted by consumers. And they must do it in a broader variety of formats, sizes, and locations.

In creating climate-friendly, energy-efficient, and compact solutions, communities can also level up their placemaking strategies to give greater focus to the dignity of the human experience, right where people live.

In making their own Missing Middle mixtape, people can use their imaginations to create a variety of formats which could be used not only now, given needs for population and household composition. Flexible housing types that can also be redeployed in the future as trends change and populations shift again.

These kinds of solutions will come from both the public and private sectors working in partnerships to implement multiple solutions at once. They will cater to differing needs that extend far beyond the downtown commercial district and influence the creation of an expanded housing portfolio. They will not only include traditional single-family residential, but also gentle density two-family homes, four-family homes, small apartment buildings, and cottage courts. And a recurring motif will be a greater integration of Universal Design with green building standards.

NOW IS THE TIME TO FLIP THE CASSETTE TO THE B SIDE OF THE HOUSING MIXTAPE.

PRESS PLAY, CRANK THE VOLUME, AND ROCK OUT TO THE NEW HOUSING CLASSICS.



Liner Notes

General Resources

This Used to be Normal: Pattern Book Homes for 21st Century Michigan <https://mml.org>

AARP Discovering and Developing Missing Middle Housing <https://www.aarp.org/livable-communities/housing/info-2022/missing-middle-housing.html>

Enabling Better Places: Users' Guide to Zoning Reform <https://www.cnu.org/michigan>

Missing Middle Housing <https://missingmiddlehousing.com/>

Fair Housing Act Design Manual <https://www.huduser.gov/portal/publications/destech/fairhousing.html>

Energy Efficiency

Redevelopment Ready Communities: Supplemental Green Infrastructure Guide <https://www.miplace.org/4a5ae4/globalassets/documents/rrc/rrc-library/guides/green-infrastructure-guide-2022.pdf>

The Pretty Good House <https://www.prettygoodhouse.org/>

Grand Traverse Depot Neighborhood <https://www.habitatgtr.org/the-depot-neighborhood/>

Energy Star Tax Credits for Home Builders https://www.energystar.gov/about/federal_tax_credits/federal_tax_credit_archives/tax_credits_home_builders

Energy Star Residential New Construction Program Requirements https://www.energystar.gov/partner_resources/residential_new/homes_prog_reqs/national_page

Zero Energy Ready Home Program <https://www.energy.gov/eere/buildings/zero-energy-ready-home-program>

Consumers & DTE New Homes Construction Overviews https://michiganrebates.com/sites/default/files/2023-01/mi_-_new_home_construction_2023_program_overview_for_mirebates_dec_2022_web.pdf

2023 DTE Energy Rebates for New Homes https://michiganrebates.com/sites/default/files/2023-01/37937_dte_nh_rebate_incentive_chart_v2_web_release_0.pdf

Consumers Energy Rebates for New Homes https://consumersenergytradedeally.com/sites/default/files/34410_CE_NHC_Rebate_Chart_v07.pdf

Energy Efficiency Made Easy: Understanding New Tax Credits & Benefits of SIPs <https://www.sips.org/blog/energy-efficiency-made-easy-understanding-new-tax-credits-and-benefits-of-sips>

Raised-Heel Trusses <https://www.apawood.org/raised-heel-trusses>

Phius: What is Passive Building? <https://www.phius.org/passive-building/what-passive-building>

Department of Energy: Passive Solar Homes <https://www.energy.gov/energysaver/passive-solar-homes>

Solar Energy Guide for Homebuilders <https://www.energy.gov/eere/solar/solar-energy-guide-homebuilders>

Soak Up the Rain: Rain Barrels <https://www.epa.gov/soakuptherain/soak-rain-rain-barrels>

Stormwater Solutions for Homeowners Fact Sheet: Reducing Impervious Surfaces <https://www.mass.gov/doc/stormwater-solutions-for-homeowners-fact-sheet-reducing-impervious-surfaces/download#:~:text=Use%20pervious%20materials%20%2D%20Rather%20than,or%20re%2Dlevel%20the%20area.>

Financing Programs & Models

Federal Housing Administration (FHA)
Loans for 1 to 4 Units
<https://www.hud.gov/buying/loans>

Federal Home Loan Bank of Indianapolis (FHLBI)
Affordable Housing Program <https://www.fhlbi.com/services/affordable-housing/>

New York State Plus One ADU Program
<https://hcr.ny.gov/adu>

InvestUP
<https://www.investupmi.com/index.php/building-the-u-p/>

Dwelling Place Community Land Trust
<https://dwellingplacegr.org/clt/>

Grounded Solutions Network Guide to
Community Land Trusts
<https://groundedsolutions.org/strengthening-neighborhoods/community-land-trusts>

MEDA Housing Development Using Tax Increment
Financing
<https://www.medaweb.org/housingtif>

Michigan State Housing Development Authority (MSHDA)
Missing Middle Housing Program
<https://www.michigan.gov/mshda/developers/missing-middle>

State of Michigan Land Bank
<https://www.michigan.gov/leo/bureaus-agencies/landbank>



Actually for Two Families

FAR sighted planning was involved in the design and construction of this residence in Montgomery, Ala. The owner desired a house which would be big enough for his anticipated family needs in the future, yet so arranged that the surplus space could be rented out until such time as needed. Hence, the second floor was arranged as a separate apart-

upstairs apartment to good effect. The house seems to "hang the ground," made feasible by the concrete floor slab construction.
Another feature of this house is the location of a gas-fired warm air heating plant in the attic. It is discharged at baseboard level in the living room on the first floor, and at ceiling level in the living rooms on this floor. The exterior is painted on frame.



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