



The East City Residence - 2021 Logix Award Winner, Most Outstanding Large Residential Project



CUSTOMIZING YOUR LOGIX ICF HOME FOR EVEN HIGHER PERFORMANCE

A COLLECTION OF INFOGRAPHICS FOR ENHANCING:

- Energy Efficiency & Sustainability
- High Wind Protection
- Wildfire Protection
- Earthquake Protection
- Flood Protection

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30 WAYS TO ADD ENERGY EFFICIENCY & SUSTAINABILITY TO YOUR LOGIX XTRACOMFORT™ HOME

OVERALL DESIGN

CONDUCT THIRD PARTY DUCT & BLOWER DOOR TESTING

Ensures maximum performance of building envelope and HVAC systems

INTEGRATE DESIGN FOR NATURAL DAYLIGHTING

Harnesses free natural lighting

INTEGRATE PASSIVE SOLAR DESIGN

Harnesses free solar energy

USE A RAIN BARREL

Re-purposes roof run-off water

HVAC & UTILITIES

INSTALL A PHOTOVOLTAIC ARRAY

Harnesses Clean energy from the sun

AVOID INEFFICIENT CRAWL SPACES

Increases energy-efficiency

INSTALL A SOLAR HOT WATER SYSTEM

Harnesses free solar energy to heat water

INSTALL AN AIR SOURCE HEAT PUMP

Increases energy-efficiency

DON'T OVERSIZE THE FURNACE

A properly sized furnace lowers first cost and operating cost

CHOOSE A HIGH-EFFICIENCY HVAC SYSTEM

Uses less energy and reduces operating costs

SELL BACK EXCESS ELECTRICITY TO THE GRID

Achieves a net zero energy home

WINDOWS

ENSURE WINDOWS ARE PROPERLY FLASHED

Protects from moisture damage

INSTALL ENERGY-EFFICIENT WINDOWS

Low emittance, argon-filled or triple-paned windows reduce energy loss

USE LOGIX PRO-BUCK™ IN ALL OPENINGS

Eliminates thermal bridging around window and door openings

WALLS

FROST PROTECT & SEAL ALL FOOTINGS

Reduces energy loss and keeps walls drier and healthier

INSULATE WOOD-FRAMED GABLES WITH GPS

Halo® or Neopor® reflective GPS rigid insulation eliminates thermal bridging

UPGRADE TO LOGIX PLATINUM SERIES

Provides an R-28 wall assembly thermal performance

INSULATE THE TOPS OF LOGIX WALLS

Adds a thermal break

USE FIBER REINFORCEMENT INSTEAD OF REBAR

Adds consistency in wall strength and controls cracks

USE LOGIX D-RV INSERTS

Adds an extra R-8 to exterior walls

FINISH WITH FIBER CEMENT SIDING OR COMPOSITE TRIM

Lasts longer, reduces decay and resists insects

DOORS

CHOOSE FIBERGLASS DOORS & WINDOWS

Increases life expectancy

INSTALL SLAB THERMAL BREAKS IN DOOR OPENINGS

Prevents energy loss

FLOORS

INSTALL RADIANT HEAT & RADIANT PANELS IN ALL FLOORS

Heat-Sheet® Panels insulate and save on labor

USE ENGINEERED OR CONCRETE FLOOR SYSTEMS

Reduces sound transmission between floors

INSULATE UNDER SLAB WITH GPS

Halo® or Neopor® laminated GPS rigid insulation adds up to R-10 or more thermal resistance

INSTALL A RADON DIFFUSION SYSTEM

Prevents sickness from long-term radon exposure

ROOF

INSULATE ROOF WITH GPS

Halo® or Neopor® reflective GPS rigid insulation eliminates thermal bridging

DESIGN ROOF WITH AN INSULATED RAISED HEEL

Eliminates heat loss at roof connection

INSTALL QUALITY SOFFIT & RIDGE VENTS

Optimizes roof ventilation



Build Anything Better.™

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MAKE YOUR LOGIX XTRACOMFORT™ HOME MORE HIGH-WIND RESILIENT

1

WALLS

- Design Logix walls to the appropriate wind speed (refer to Logix whitepaper “Designing Safe Homes & Rooms”).
- Construct gable walls with Logix.
- Follow Logix-prescribed attachment recommendations.
- Use a high impact-rated synthetic stucco.

2

OPENINGS

- Install impact-rated windows (must be appropriate for the exposure category) or protect windows with impact-rated shutter products with permanent anchors (passed ASTM E1996 and E1886 for large missile test D).
- Protect sliding glass doors with impact-rated shutter products with permanent anchors (passed ASTM E1996 and E1885 for large missile test D).
- Install sliding glass doors with impact-rated shutter products with permanent anchors (passed ASTM E1996 and E1885 for large missile test D).
- Install impact-rated entry doors or protect doors with impact-rated shutter products with permanent anchors (passed ASTM E1996 and E1886 for large missile test D).
- Install garage doors that meet all design pressures associated with design wind speeds (ASCE 7-05 or ASCE 7-10).

3

OVERHANGS

- Gable overhangs should not be vented.
- Center-brace at mid-span box type all soffit and gable overhangs.

4

ROOF

- Truss design for high wind loads per exposure.
- Consider a 6/12 roof pitch or a 4-sided hipped roof for maximum wind deflection and minimum roof lift.
- Use machine-rated 2400 psi framing lumber for roof trusses (2x stronger than regular framing).
- To build a roof deck, use 7/16" OSB or plywood or 5/8" zip system.
- Use oversized truss hangers.
- Seal the roof deck for high wind conditions (refer to recommendations from Fortified Homes).
- Flash roof penetrations and valleys.
- Install wind-rated underlayment.
- Install a high wind-rated roof cover (meets ASTM D7158 Class H).
- Fasten shingles with 8D ring shank nails 6" to 4" o/c.
- Install ridge and off ridge vents rated for water intrusions resistance [meet Florida Code TAS (100) A].
- Add strength from the underside with closed cell polyurethane foam (minimum core density 1.5-3.0L B/Ci, meets ASTM D1622).

5

OTHER

- Ensure chimney is adequately connected to the roof structure.
- Ensure porches and car ports are adequately connected to resist uplift (to beam/wall, from beam to beam, and column to structure below).

6

SAFE ROOM

- Construct a FEMA-compliant in-home or outside safe room with Logix (an in-home safe room built into a corner can use two existing Logix exterior walls).



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MAKE YOUR LOGIX XTRACOMFORT™ HOME MORE WILDFIRE RESILIENT

1

USE CLASS A ROOF COVERING

- Class A fire-rated roofing products offer the best protection.

2

CLEAR DEBRIS FROM ROOF

- Regularly remove debris from your roof as it can be ignited by wind-blown embers.

3

KEEP EMBERS OUT OF EAVES & VENTS

- Use 1/8" non-combustible mesh to cover vents.
- "Box in" open eaves to create a soffited eave.

4

REDUCE SIDING RISKS

- Maintain a 6-inch ground-to-siding clearance.
- Install non-combustible siding.

5

REDUCE DECK RISKS

- Use deck boards that comply with state and provincial requirements for new construction in wildfire-prone areas.
- Remove any combustibles from under the deck.

6

REDUCE FENCE RISKS

- Burning fencing can generate embers and cause direct flame contact to your home.
- Choose non-combustible fencing and gates.

7

INSTALL NON-FLAMMABLE GROUND COVER FOR FIRST 5 FEET AROUND THE HOME

- Use non-combustible materials such as gravel, brick, or concrete in this critical area adjacent to your home.

8

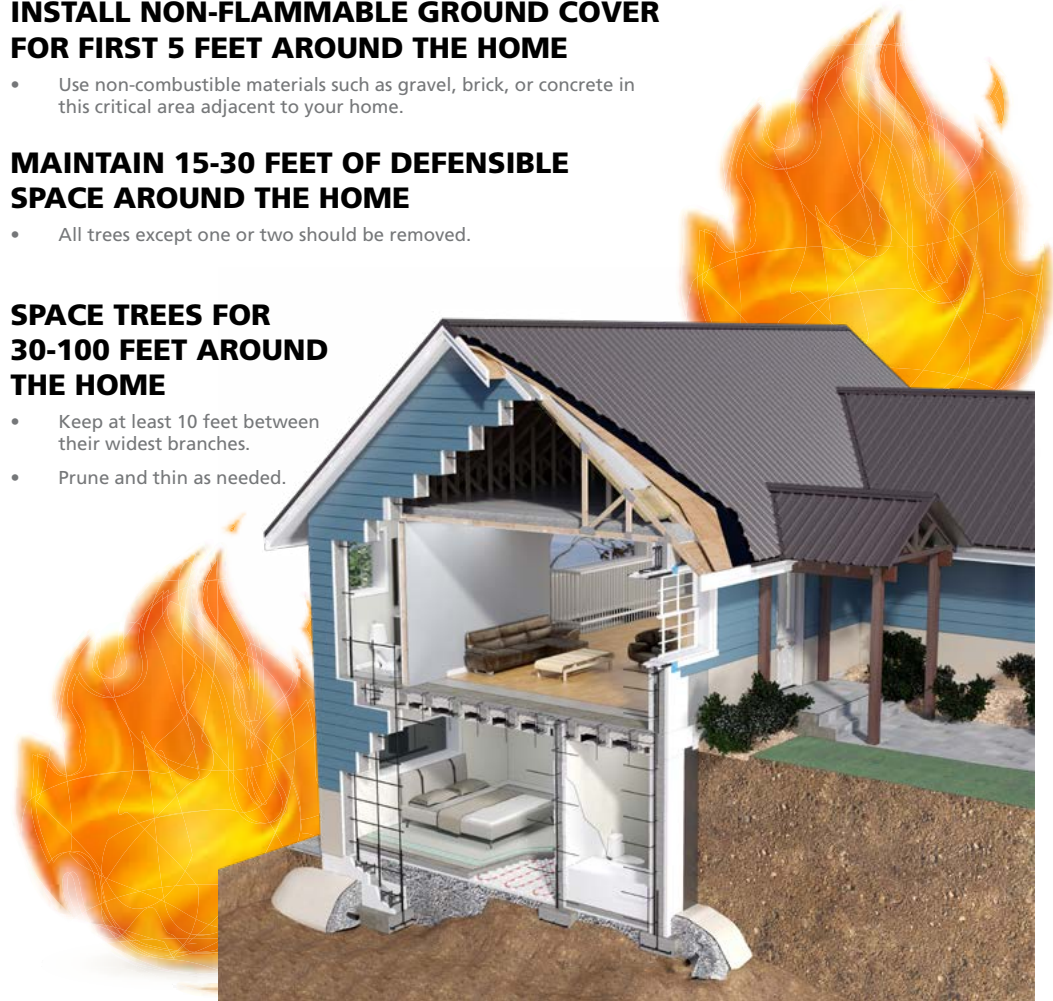
MAINTAIN 15-30 FEET OF DEFENSIBLE SPACE AROUND THE HOME

- All trees except one or two should be removed.

9

SPACE TREES FOR 30-100 FEET AROUND THE HOME

- Keep at least 10 feet between their widest branches.
- Prune and thin as needed.



MAKE YOUR LOGIX XTRACOMFORT™ HOME MORE EARTHQUAKE RESILIENT

1

GENERAL

- Contact a building official to confirm your seismic zone. Regions that are more earthquake prone have additional requirements per the local building code.
- Follow your local building code for seismic requirements. Also use a structural engineer, when necessary, to design your Logix home or building (and all the connections) to the appropriate seismic zone for your area.

2

WALLS

- Logix reinforced concrete walls are easily built to take seismic loads. They are also great energy absorbers during earthquakes providing the connections to the roof, floors and foundations are well designed and integrated. By tying the Logix home together from roof to foundation, you provide a continuous load path that ensures the structural framework of the house can withstand earthquake loads as it transfers forces to the foundation.
- Logix-built shear walls are commonly designed to withstand sideways loading caused by earthquakes.
- Don't use brick in high seismic zones as it can collapse or crack. If using brick, tie it back to the concrete.

3

FOUNDATION

- Build a deep Logix foundation, if possible.

4

ROOF

- Ensure the roof is securely tied to the walls to prevent collapse during an earthquake event.
- Wood-framed roof trusses should be strapped to anchored sill plates. Steel trusses should be anchored to the Logix concrete core.
- Roof sill plates should be bolted to the Logix concrete core.
- The roof should be of lightweight material, if possible.

5

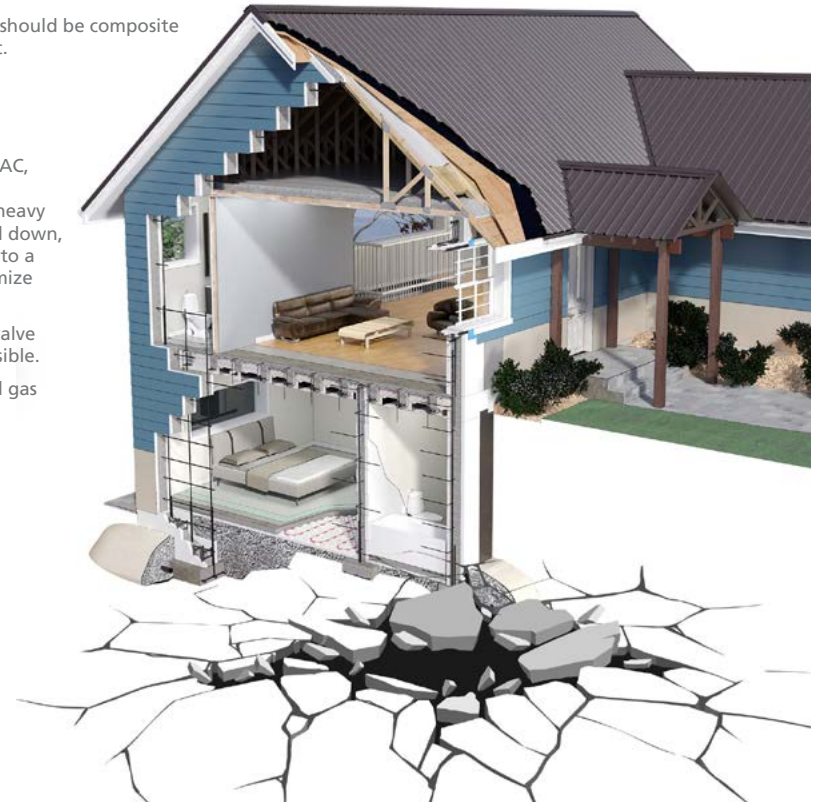
FLOORS & DECKS

- Ensure floors and decks are securely tied to the walls to prevent collapse during an earthquake event.
- For wood floors, ledgers should be anchored to the concrete core with ICF ledger connectors or anchor bolts. The wood joists must be securely tied to the ledger.
- Suspended slabs should be properly designed and detailed for the wall/floor connection.
- For steel floor joists, the bearing must be supported in the Logix concrete wall.
- Decks must be securely anchored to the Logix concrete core with anchor bolts.
- The concrete topping should be composite to prevent movement.

6

SERVICES

- All services such as HVAC, hot water tank, heavy appliances, and even heavy fixtures should be tied down, anchored or strapped to a concrete wall to minimize damage or injury.
- The gas line shut-off valve should be easily accessible.
- Use flexible water and gas pipelines.



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MAKE YOUR LOGIX XTRACOMFORT™ HOME MORE FLOOD RESILIENT

FLOODING CAN OCCUR ANYWHERE, OFTEN WITH LITTLE OR NO WARNING. THESE PROACTIVE STEPS CAN HELP YOU REDUCE THE RISK OF A FLOOD SEVERELY DAMAGING YOUR HOME OR BUSINESS.

- 1 Design the home to be on stilts (above the flood lines).
- 2 Use an ICF floor system for the main floors of the home, or design the home to be slab-on-grade or with a frost-protected shallow foundation.
- 3 Avoid building a basement in flood prone areas or areas with high water tables.
- 4 If you do build a basement, install double waterproofing (such as a layer of peel-and-stick and then a layer of dimple board) to protect the membrane and relieve hydrostatic pressure against the wall.
- 5 Use free-draining backfill such as sand against the basement wall.
- 6 Install the waterproof membrane up to a height above flood lines.
- 7 Direct water away from the building by making sure your yard slopes away from the house.
- 8 Anchor outside fuel tanks.
- 9 Install exterior electrical meter box and power points above flood lines.
- 10 Place interior switches, sockets, circuit breakers and wiring at least 12 inches above expected flood levels.
- 11 Install an interior or exterior sewer backflow valve.
- 12 Install a sump pump and ensure the battery remains fully charged.
- 13 Protect your well from flood contamination by having a licensed contractor inspect it and suggest safety improvements.
- 14 Install HVAC equipment to an upper floor or build a flood-proof wall around the equipment.

