NEW CONSTRUCTION DECISION TREE

UPDATED SEPTEMBER 2025

Use this tool to quickly identify key decisions, map out options, and communicate clearly the chosen pathways that demonstrate Massachusetts energy code compliance.

HOW TO USE:

1. START with the main decision tree, existing or new construction

2. Consider **ONE USE** at a time, answering questions to

- **IDENTIFY** the code "branch"

- Navigate through the appropriate **CODE BRANCH** by establishing the path that represent your project
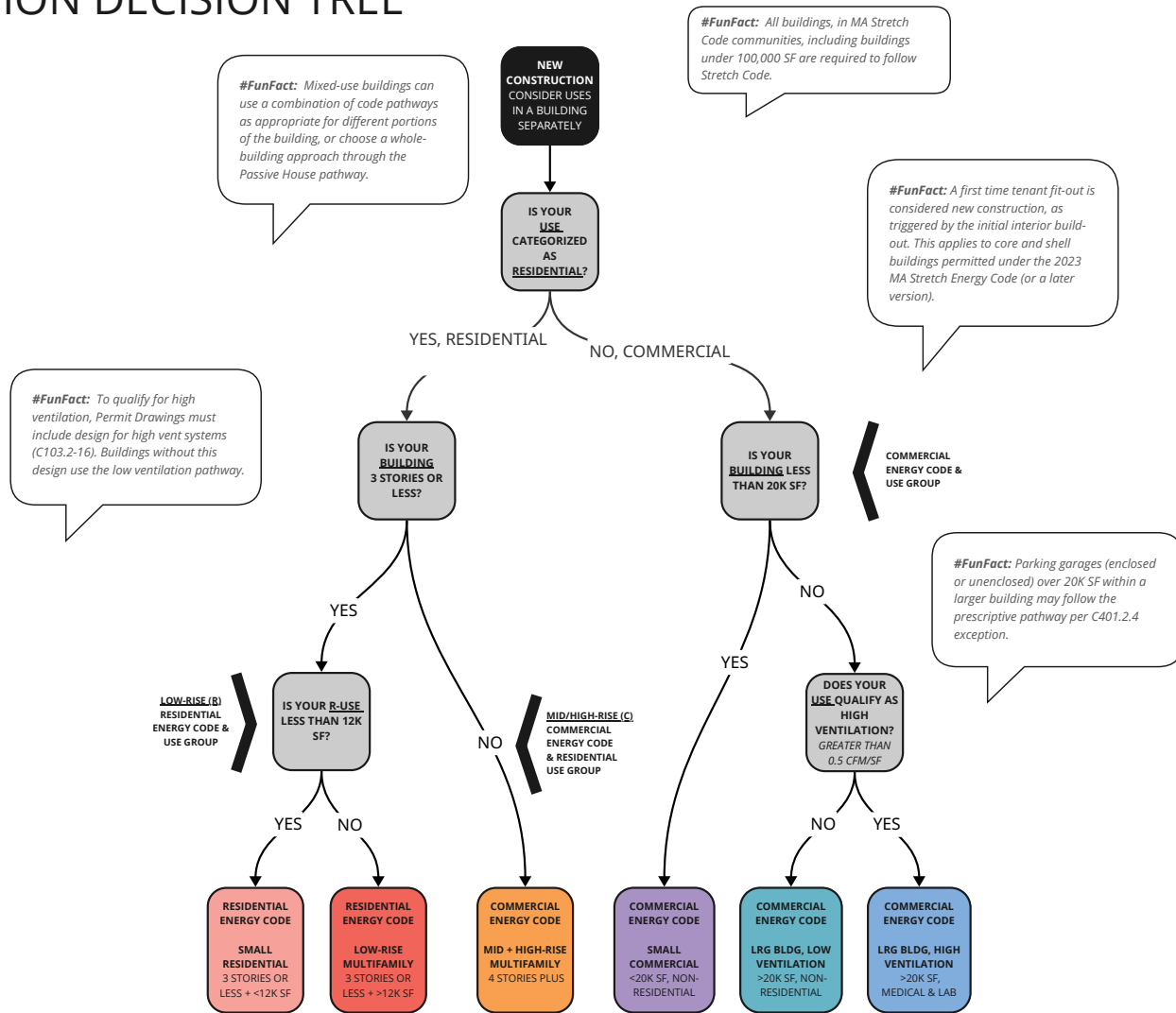
3. For **MIXED-USE BUIDLINGS**, repeat the process for each use group

The branches do not contain all energy code requirements. Instead, it notes options or decisions which send you down a path. The path points to the relevant code section(s), detailing project requirements.

BE MINDFUL:

*The International Energy Conservation Code (IECC) is a model energy code, which forms the basis for the Massachusetts energy codes. The first bucket, the **Base Energy Code,** is the minimum required energy code in Massachusetts. The second bucket, the **Stretch Code, is a stricter option** towns and cities have already voted to incorporate. The third bucket, the **Specialized Opt-in Code, includes additional requirements** in addition to the Base and Stretch Code and is available for municipal vote as of December 2022.*

This effort to map out MA Energy Code compliance pathways does not account for impacts of other codes and ordinances that may apply to projects.

#FunFact: *Mixed-use buildings can use a combination of code pathways as appropriate for different portions of the building, or choose a whole-building approach through the Passive House pathway.*

#FunFact: *All buildings, in MA Stretch Code communities, including buildings under 100,000 SF are required to follow Stretch Code.*

#FunFact: *A first time tenant fit-out is considered new construction, as triggered by the initial interior build-out. This applies to core and shell buildings permitted under the 2023 MA Stretch Energy Code (or a later version).*

NEW CONSTRUCTION CONSIDER USES IN A BUILDING SEPARATELY

IS YOUR <u>USE</u> CATEGORIZED AS <u>RESIDENTIAL</u>?

→ YES, RESIDENTIAL

→ NO, COMMERCIAL

#FunFact: *To qualify for high ventilation, Permit Drawings must include design for high vent systems (C103.2-16). Buildings without this design use the low ventilation pathway.*

IS YOUR <u>BUILDING</u> 3 STORIES OR LESS?

IS YOUR <u>BUILDING</u> LESS THAN 20K SF?

COMMERCIAL ENERGY CODE & USE GROUP

#FunFact: *Parking garages (enclosed or unenclosed) over 20K SF within a larger building may follow the prescriptive pathway per C401.2.4 exception.*

YES (under building 3 stories or less)

NO (building less than 20K SF)

YES (building less than 20K SF)

LOW-RISE (R) RESIDENTIAL ENERGY CODE & USE GROUP

IS YOUR <u>R-USE</u> LESS THAN 12K SF?

NO

MID/HIGH-RISE (C) COMMERCIAL ENERGY CODE & RESIDENTIAL USE GROUP

DOES YOUR <u>USE</u> QUALIFY AS HIGH VENTILATION? *GREATER THAN 0.5 CFM/SF*

YES / NO (under R-USE less than 12K SF)

NO / YES (under high ventilation)

RESIDENTIAL ENERGY CODE — SMALL RESIDENTIAL — 3 STORIES OR LESS + <12K SF

RESIDENTIAL ENERGY CODE — LOW-RISE MULTIFAMILY — 3 STORIES OR LESS + >12K SF

COMMERCIAL ENERGY CODE — MID + HIGH-RISE MULTIFAMILY — 4 STORIES PLUS

COMMERCIAL ENERGY CODE — SMALL COMMERCIAL — <20K SF, NON-RESIDENTIAL

COMMERCIAL ENERGY CODE — LRG BLDG, LOW VENTILATION — >20K SF, NON-RESIDENTIAL

COMMERCIAL ENERGY CODE — LRG BLDG, HIGH VENTILATION — >20K SF, MEDICAL & LAB

LOW-RISE RESIDENTIAL BRANCH: 3 STORIES OR LESS <12,000 SF

UPDATED SEPTEMBER 2025

LEGEND

→ *2023-2026*

⇢ *Effective After Municipal Vote*

#FunFact: unlike a DWELLING UNIT, a SLEEPING UNIT has either sanitation or kitchen facilities but not both.

#FunFact: Base Energy Code Prescriptive Path does not include Solar Ready Requirements

#FunFact: Base code Passive House does not allow compliance without final certification, but a project can always opt into the Stretch Code where it does apply.

RESIDENTIAL ENERGY CODE
SMALL RESIDENTIAL
3 STORIES OR LESS + <12K SF

IS YOUR BUILDING IN A STRETCH CODE COMMUNITY?

- YES → **HAS YOUR MUNICIPAITY VOTED IN THE SPECIALIZED CODE?**
- NO → **BASE ENERGY CODE (R)** *IECC 2021 WITH 780 CMR 51*

OPTIONAL COMPLIANCE PATH (from BASE ENERGY CODE to HAS YOUR MUNICIPAITY VOTED IN THE SPECIALIZED CODE?)

HAS YOUR MUNICIPAITY VOTED IN THE SPECIALIZED CODE?

- YES → **SPECIALIZED OPT-IN CODE** *IECC 2021 WITH 780 CMR + 225 CMR 22 + APPENDIX RC*
  - OPTIONAL → **STRETCH CODE** *IECC 2021 BASE CODE + CMR 22*
  - **APPENDIX RC ZERO ENERGY BUILDING** *RC101 REPLACING 225 CMR 22 R401.2*
    - **CERTIFIED PERFORMANCE**
      - **PASSIVE HOUSE** *R405*
        - **+ ALL-ELECTRIC** *RC103*
        - **+ MIXED-FUEL PRE-WIRE** *RC104*
      - **HERS 42/45** *R406*
        - **DOES YOUR BUILDING HAVE UNIT(S) OVER 4,000 SF?**
          - YES/NO → **+ ZERO ENERGY HERS 0, SOLAR** *RC102*
          - YES/NO → **+ ALL-ELECTRIC HERS 45** *or 48 with EC credits RC103*
          - NO → **+ MIXED-FUEL HERS 42, PRE-WIRE, SOLAR** *or 45 with EC RC104-RC105*
- NO → **STRETCH CODE** *IECC 2021 BASE CODE + CMR 22*

STRETCH CODE branch

- **CERTIFIED PERFORMANCE** *R401.2.2 OR R401.2.3*
  - **PASSIVE HOUSE** *R401.2.5, R404.4, R405 + APPENDIX RB*
  - **HERS 42/45** *or 45/48 with EC credits R401.2.5, R403.6, R404.4, R406 + APPENDIX RB*

- SLEEPING UNITS → **PRESCRIPTIVE** *R401.2.1*
  - **RESCHECK WEB** *R401.2.5, R401 THROUGH 404, R408 + APPENDIX RB*

- ACCESSORY DWELLING UNITS → **CERTIFIED PERFORMANCE**
  - **HERS 52/55/58** *R406*

BASE ENERGY CODE (R) branch

- **PRESCRIPTIVE** *R401.2.1: R401 - R404 & ONE OPTION FROM R408.2*
- **PASSIVE HOUSE** *R401.2.2: R405, 404.4, Appendix RB*
- **ENERGY RATING INDEX** *R401.2.3: R406* **HERS 52/55/58**
- **APPENDIX RC** *R401.2.4 RC102.2 RESNET ICC 301* **ERI 47/0**

PCA   HMFH ARCHITECTS   DIMELLA SHAFFER   E-ICON ARCHITECTURE

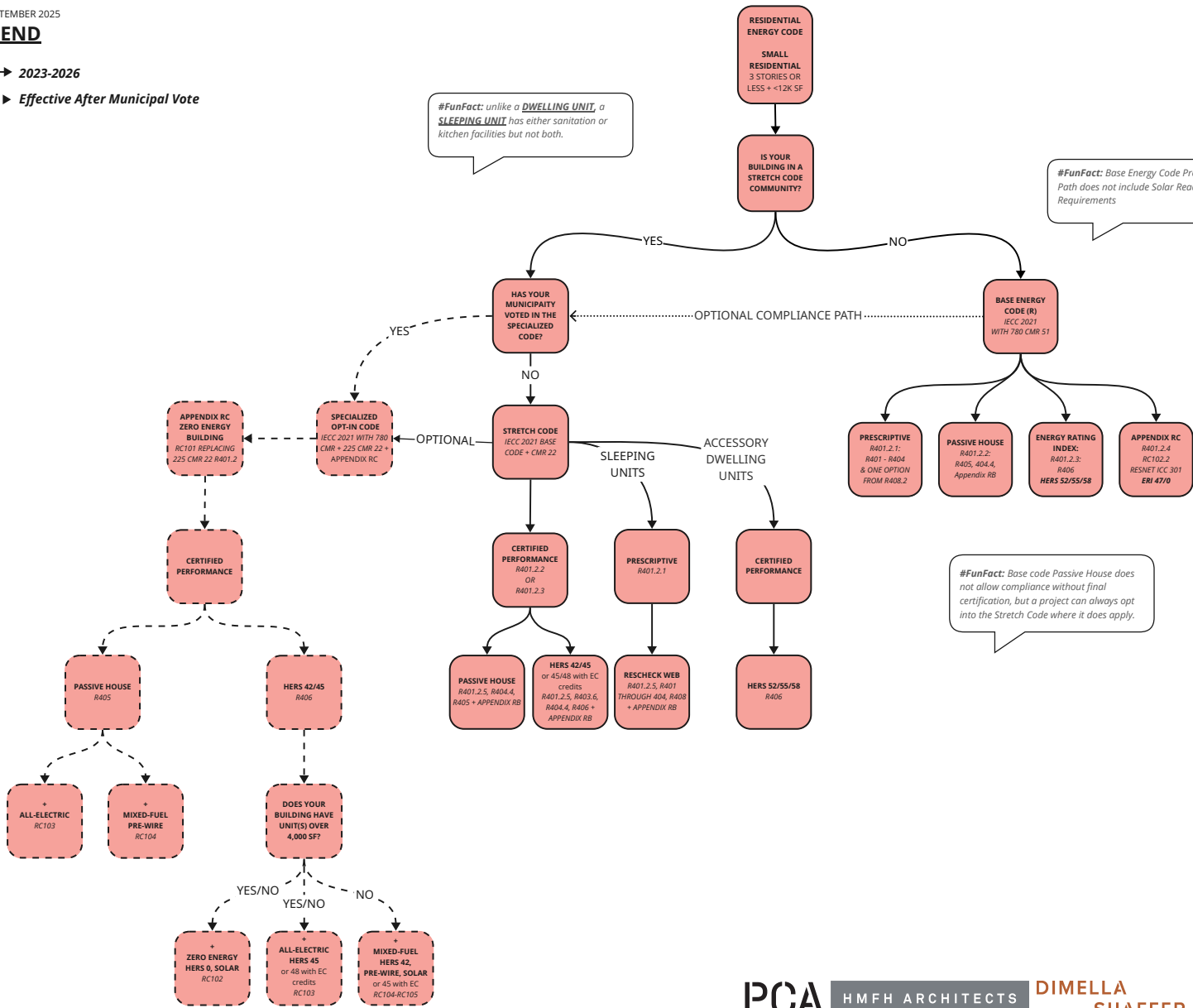# LOW-RISE RESIDENTIAL BRANCH: 3 STORIES OR LESS >12,000 SF

UPDATED SEPTEMBER 2025

LEGEND

→ *2023-2026*

- - -▸ *Effective After Municipal Vote*

#FunFact: unlike a __DWELLING UNIT__, a __SLEEPING UNIT__ has either sanitation or kitchen facilities but not both.

#FunFact: Base Energy Code Prescriptive Path does not include Solar Ready Requirements
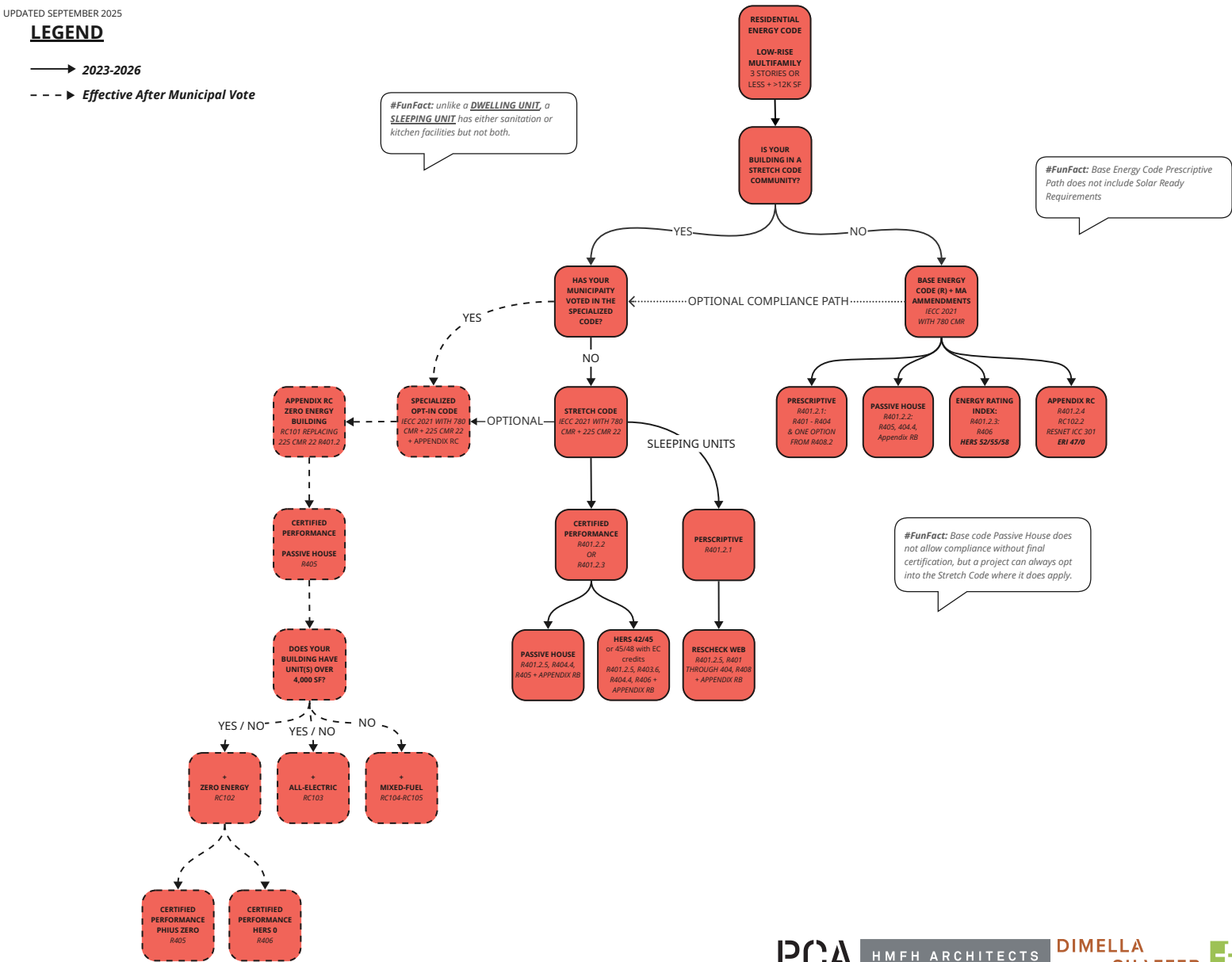
#FunFact: Base code Passive House does not allow compliance without final certification, but a project can always opt into the Stretch Code where it does apply.

RESIDENTIAL ENERGY CODE — **LOW-RISE MULTIFAMILY** *3 STORIES OR LESS + >12K SF*

IS YOUR BUILDING IN A STRETCH CODE COMMUNITY?

- YES →
- NO →

HAS YOUR MUNICIPAITY VOTED IN THE SPECIALIZED CODE?

- YES
- NO

BASE ENERGY CODE (R) + MA AMMENDMENTS *IECC 2021 WITH 780 CMR*

········ OPTIONAL COMPLIANCE PATH ········

SPECIALIZED OPT-IN CODE *IECC 2021 WITH 780 CMR + 225 CMR 22 + APPENDIX RC*

OPTIONAL →

APPENDIX RC ZERO ENERGY BUILDING *RC101 REPLACING 225 CMR 22 R401.2*

STRETCH CODE *IECC 2021 WITH 780 CMR + 225 CMR 22*

SLEEPING UNITS

PRESCRIPTIVE *R401.2.1: R401 - R404 & ONE OPTION FROM R408.2*

PASSIVE HOUSE *R401.2.2: R405, 404.4, Appendix RB*

ENERGY RATING INDEX: *R401.2.3: R406* **HERS 52/55/58**

APPENDIX RC *R401.2.4 RC102.2 RESNET ICC 301* **ERI 47/0**

CERTIFIED PERFORMANCE — **PASSIVE HOUSE** *R405*

CERTIFIED PERFORMANCE *R401.2.2 OR R401.2.3*

PERSCRIPTIVE *R401.2.1*

DOES YOUR BUILDING HAVE UNIT(S) OVER 4,000 SF?

- YES / NO
- YES / NO
- NO

PASSIVE HOUSE *R401.2.5, R404.4, R405 + APPENDIX RB*

HERS 42/45 *or 45/48 with EC credits R401.2.5, R403.6, R404.4, R406 + APPENDIX RB*

RESCHECK WEB *R401.2.5, R401 THROUGH 404, R408 + APPENDIX RB*

+ ZERO ENERGY *RC102*

+ ALL-ELECTRIC *RC103*

+ MIXED-FUEL *RC104-RC105*

CERTIFIED PERFORMANCE PHIUS ZERO *R405*

CERTIFIED PERFORMANCE HERS 0 *R406*

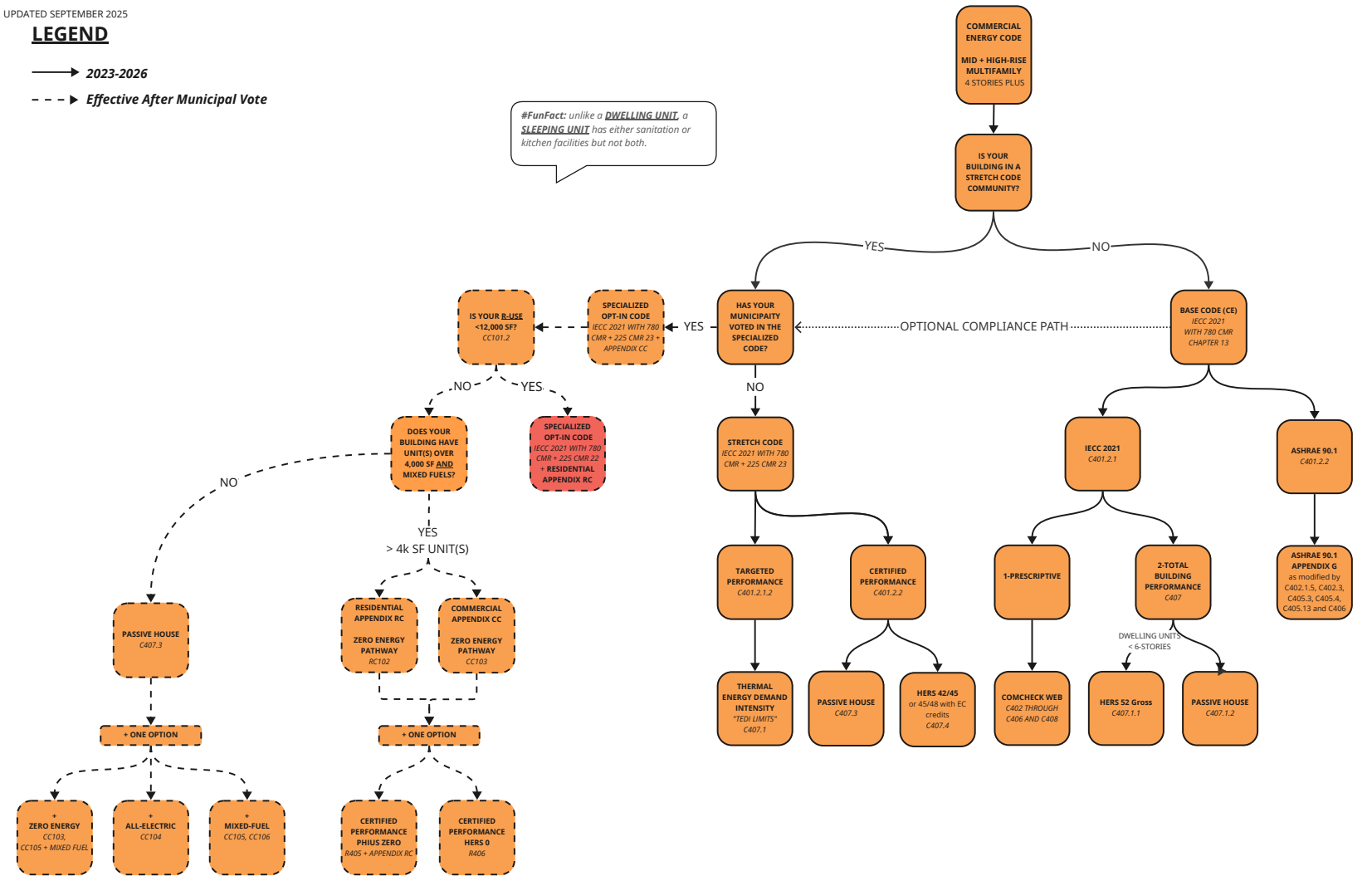PCA   HMFH ARCHITECTS   DIMELLA SHAFFER   E-ICON ARCHITECTURE

COMMERCIAL BRANCH: RESIDENTIAL 4 STORIES OR MORE

UPDATED SEPTEMBER 2025

LEGEND

→ *2023-2026*

⇢ *Effective After Municipal Vote*

#FunFact: unlike a DWELLING UNIT, a SLEEPING UNIT has either sanitation or kitchen facilities but not both.

COMMERCIAL ENERGY CODE
MID + HIGH-RISE MULTIFAMILY
4 STORIES PLUS

↓

IS YOUR BUILDING IN A STRETCH CODE COMMUNITY?

— YES → / — NO →

YES branch

HAS YOUR MUNICIPAITY VOTED IN THE SPECIALIZED CODE?

— YES → **SPECIALIZED OPT-IN CODE**
IECC 2021 WITH 780 CMR + 225 CMR 23 + APPENDIX CC

⇢ **IS YOUR R-USE <12,000 SF?**
CC101.2

- NO → **DOES YOUR BUILDING HAVE UNIT(S) OVER 4,000 SF AND MIXED FUELS?**
- YES ⇢ **SPECIALIZED OPT-IN CODE**
IECC 2021 WITH 780 CMR + 225 CMR 22 + RESIDENTIAL APPENDIX RC

DOES YOUR BUILDING HAVE UNIT(S) OVER 4,000 SF AND MIXED FUELS?

- NO ⇢ **PASSIVE HOUSE** *C407.3*
- YES ⇢ **> 4k SF UNIT(S)**

PASSIVE HOUSE branch (NO)

+ ONE OPTION
- **+ ZERO ENERGY** *CC103, CC105 + MIXED FUEL*
- **+ ALL-ELECTRIC** *CC104*
- **+ MIXED-FUEL** *CC105, CC106*

> 4k SF UNIT(S) branch (YES)

- **RESIDENTIAL APPENDIX RC** ZERO ENERGY PATHWAY *RC102*
- **COMMERCIAL APPENDIX CC** ZERO ENERGY PATHWAY *CC103*

+ ONE OPTION
- **CERTIFIED PERFORMANCE PHIUS ZERO** *R405 + APPENDIX RC*
- **CERTIFIED PERFORMANCE HERS 0** *R406*

NO (Municipality not voted) branch

STRETCH CODE
IECC 2021 WITH 780 CMR + 225 CMR 23

- **TARGETED PERFORMANCE** *C401.2.1.2*
  - **THERMAL ENERGY DEMAND INTENSITY** *"TEDI LIMITS" C407.1*
- **CERTIFIED PERFORMANCE** *C401.2.2*
  - **PASSIVE HOUSE** *C407.3*
  - **HERS 42/45** *or 45/48 with EC credits C407.4*

NO branch

BASE CODE (CE)
IECC 2021 WITH 780 CMR CHAPTER 13

⇠ OPTIONAL COMPLIANCE PATH ⇠

- **IECC 2021** *C401.2.1*
  - **1-PRESCRIPTIVE**
    - **COMCHECK WEB** *C402 THROUGH C406 AND C408*
  - **2-TOTAL BUILDING PERFORMANCE** *C407*
    - DWELLING UNITS < 6-STORIES
    - **HERS 52 Gross** *C407.1.1*
    - **PASSIVE HOUSE** *C407.1.2*
- **ASHRAE 90.1** *C401.2.2*
  - **ASHRAE 90.1 APPENDIX G** as modified by C402.1.5, C402.3, C405.3, C405.4, C405.13 and C406

PCA | HMFH ARCHITECTS | DIMELLA SHAFFER | ICON ARCHITECTURE
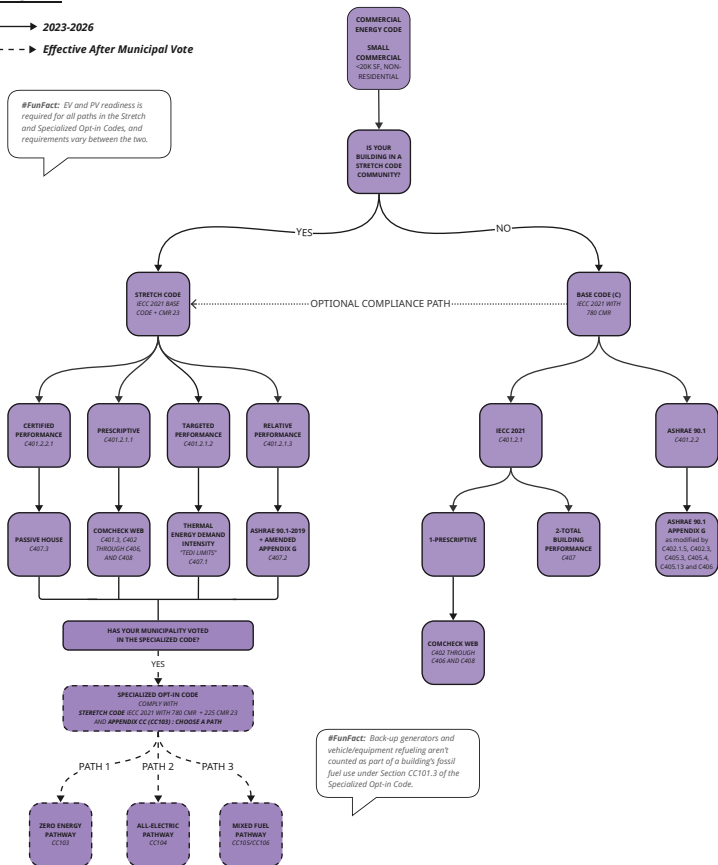
COMMERCIAL BRANCH: <20,000 SF

UPDATED SEPTEMBER 2025

LEGEND

→ *2023-2026*

⇢ *Effective After Municipal Vote*

#FunFact: *EV and PV readiness is required for all paths in the Stretch and Specialized Opt-in Codes, and requirements vary between the two.*

COMMERCIAL ENERGY CODE
SMALL COMMERCIAL
<20K SF, NON-RESIDENTIAL

IS YOUR BUILDING IN A STRETCH CODE COMMUNITY?

YES — NO

STRETCH CODE
IECC 2021 BASE CODE + CMR 23

······· OPTIONAL COMPLIANCE PATH ·······

BASE CODE (C)
IECC 2021 WITH 780 CMR

CERTIFIED PERFORMANCE
C401.2.2.1

PRESCRIPTIVE
C401.2.1.1

TARGETED PERFORMANCE
C401.2.1.2

RELATIVE PERFORMANCE
C401.2.1.3

IECC 2021
C401.2.1

ASHRAE 90.1
C401.2.2

PASSIVE HOUSE
C407.3

COMCHECK WEB
C401.3, C402 THROUGH C406, AND C408

THERMAL ENERGY DEMAND INTENSITY
"TEDI LIMITS" C407.1

ASHRAE 90.1-2019 + AMENDED APPENDIX G
C407.2

1-PRESCRIPTIVE

2-TOTAL BUILDING PERFORMANCE
C407

ASHRAE 90.1 APPENDIX G
as modified by C402.1.5, C402.3, C405.3, C405.4, C405.13 and C406

HAS YOUR MUNICIPALITY VOTED IN THE SPECIALIZED CODE?

YES

COMCHECK WEB
C402 THROUGH C406 AND C408

SPECIALIZED OPT-IN CODE
COMPLY WITH
***STRETCH CODE** IECC 2021 WITH 780 CMR + 225 CMR 23 AND **APPENDIX CC (CC103)** : CHOOSE A PATH*

PATH 1 — PATH 2 — PATH 3

ZERO ENERGY PATHWAY
CC103

ALL-ELECTRIC PATHWAY
CC104

MIXED FUEL PATHWAY
CC105/CC106

#FunFact: *Back-up generators and vehicle/equipment refueling aren't counted as part of a building's fossil fuel use under Section CC101.3 of the Specialized Opt-in Code.*

PCA   HMFH ARCHITECTS   DIMELLA SHAFFER   E·ICON ARCHITECTURE

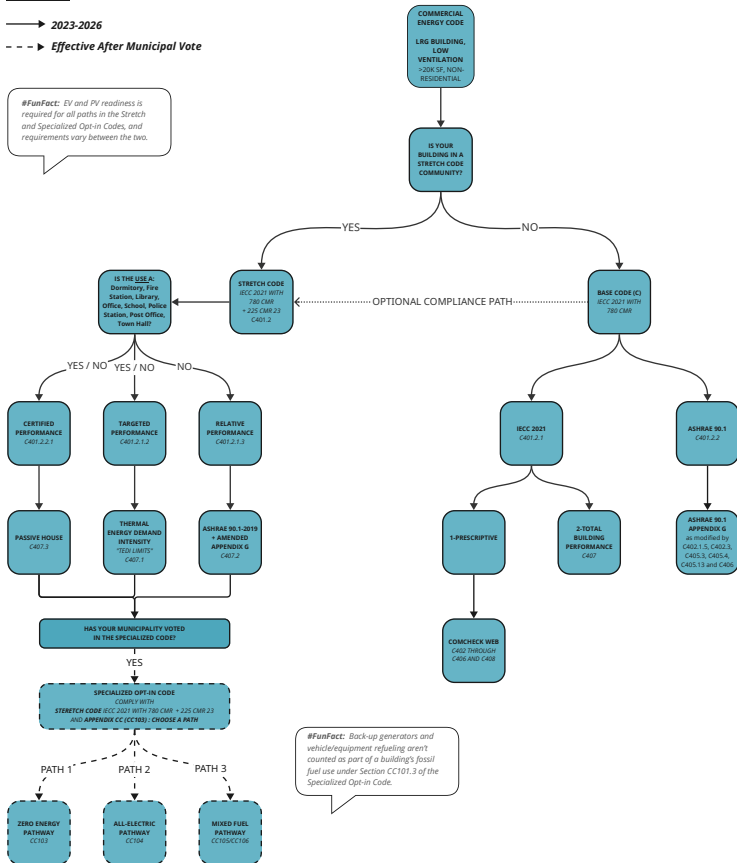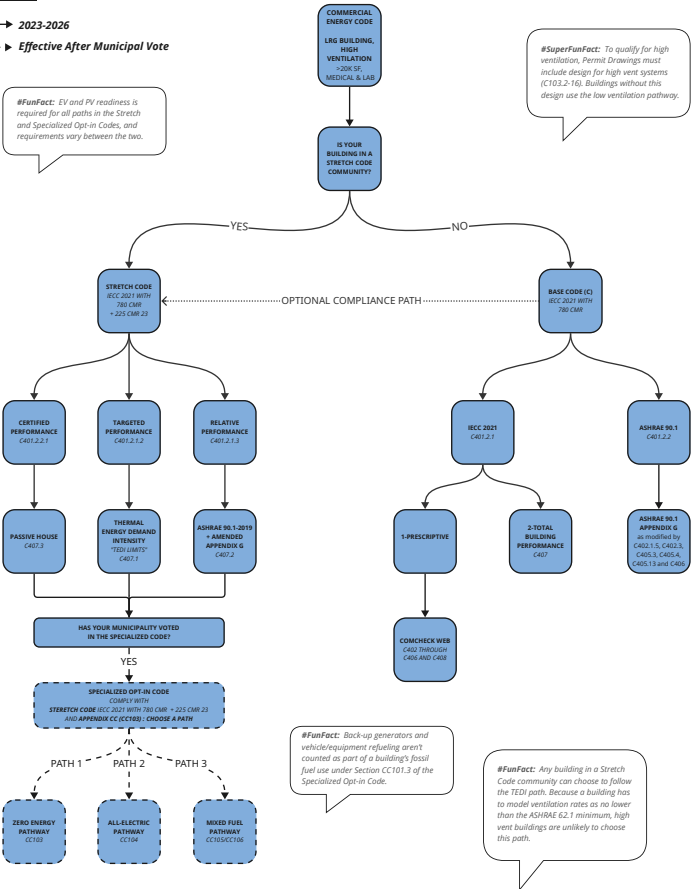# COMMERCIAL BRANCH: LOW-VENTILATION >20,000 SF

UPDATED SEPTEMBER 2025

LEGEND

→ *2023-2026*

⇢ *Effective After Municipal Vote*

#FunFact: *EV and PV readiness is required for all paths in the Stretch and Specialized Opt-in Codes, and requirements vary between the two.*

COMMERCIAL ENERGY CODE
LRG BUILDING, LOW VENTILATION
>20K SF, NON-RESIDENTIAL

IS YOUR BUILDING IN A STRETCH CODE COMMUNITY?

— YES —

— NO —

IS THE USE A: Dormitory, Fire Station, Library, Office, School, Police Station, Post Office, Town Hall?

STRETCH CODE
IECC 2021 WITH 780 CMR + 225 CMR 23
C401.2

··· OPTIONAL COMPLIANCE PATH ···

BASE CODE (C)
IECC 2021 WITH 780 CMR

YES / NO   YES / NO   NO

CERTIFIED PERFORMANCE
C401.2.2.1

TARGETED PERFORMANCE
C401.2.1.2

RELATIVE PERFORMANCE
C401.2.1.3

IECC 2021
C401.2.1

ASHRAE 90.1
C401.2.2

PASSIVE HOUSE
C407.3

THERMAL ENERGY DEMAND INTENSITY
"TEDI LIMITS"
C407.1

ASHRAE 90.1-2019 + AMENDED APPENDIX G
C407.2

1-PRESCRIPTIVE

2-TOTAL BUILDING PERFORMANCE
C407

ASHRAE 90.1 APPENDIX G
as modified by C402.1.5, C402.3, C405.3, C405.4, C405.13 and C406

HAS YOUR MUNICIPALITY VOTED IN THE SPECIALIZED CODE?

YES

COMCHECK WEB
C402 THROUGH C406 AND C408

SPECIALIZED OPT-IN CODE
COMPLY WITH
STRETCH CODE IECC 2021 WITH 780 CMR + 225 CMR 23 AND APPENDIX CC (CC103) ; CHOOSE A PATH

#FunFact: *Back-up generators and vehicle/equipment refueling aren't counted as part of a building's fossil fuel use under Section CC101.3 of the Specialized Opt-in Code.*

PATH 1   PATH 2   PATH 3

ZERO ENERGY PATHWAY
CC103

ALL-ELECTRIC PATHWAY
CC104

MIXED FUEL PATHWAY
CC105/CC106

PCA   HMFH ARCHITECTS   DIMELLA SHAFFER   E-ICON ARCHITECTURE

COMMERCIAL BRANCH: HIGH-VENTILATION >20,000 SF

UPDATED SEPTEMBER 2025

LEGEND

———▶ *2023-2026*

- - - ▶ *Effective After Municipal Vote*

COMMERCIAL ENERGY CODE
LRG BUILDING, HIGH VENTILATION
>20K SF, MEDICAL & LAB

#SuperFunFact: *To qualify for high ventilation, Permit Drawings must include design for high vent systems (C103.2-16). Buildings without this design use the low ventilation pathway.*

#FunFact: *EV and PV readiness is required for all paths in the Stretch and Specialized Opt-in Codes, and requirements vary between the two.*

IS YOUR BUILDING IN A STRETCH CODE COMMUNITY?

— YES —   — NO —

STRETCH CODE
IECC 2021 WITH 780 CMR + 225 CMR 23

···· OPTIONAL COMPLIANCE PATH ····

BASE CODE (C)
IECC 2021 WITH 780 CMR

CERTIFIED PERFORMANCE
C401.2.2.1

TARGETED PERFORMANCE
C401.2.1.2

RELATIVE PERFORMANCE
C401.2.1.3

IECC 2021
C401.2.1

ASHRAE 90.1
C401.2.2

PASSIVE HOUSE
C407.3

THERMAL ENERGY DEMAND INTENSITY
"TEDI LIMITS"
C407.1

ASHRAE 90.1-2019 + AMENDED APPENDIX G
C407.2

1-PRESCRIPTIVE

2-TOTAL BUILDING PERFORMANCE
C407

ASHRAE 90.1 APPENDIX G
as modified by C402.1.5, C402.3, C405.3, C405.4, C405.13 and C406

HAS YOUR MUNICIPALITY VOTED IN THE SPECIALIZED CODE?

YES

COMCHECK WEB
C402 THROUGH C406 AND C408

SPECIALIZED OPT-IN CODE
COMPLY WITH
STRETCH CODE IECC 2021 WITH 780 CMR + 225 CMR 23 AND APPENDIX CC (CC103): CHOOSE A PATH

PATH 1   PATH 2   PATH 3

ZERO ENERGY PATHWAY
CC103

ALL-ELECTRIC PATHWAY
CC104

MIXED FUEL PATHWAY
CC105/CC106

#FunFact: *Back-up generators and vehicle/equipment refueling aren't counted as part of a building's fossil fuel use under Section CC101.3 of the Specialized Opt-in Code.*

#FunFact: *Any building in a Stretch Code community can choose to follow the TEDI path. Because a building has to model ventilation rates as no lower than the ASHRAE 62.1 minimum, high vent buildings are unlikely to choose this path.*

PCA   HMFH ARCHITECTS   DIMELLA SHAFFER   E-ICON ARCHITECTURE