ARTICLE 21

The Planning and Regulation Subcommittee held a Public Hearing on Warrant Article 21 on October 2, 2019. Subcommittee members present were Steve Kanes (Chair), Lee Selwyn, Carol Levin, Neil Wishinsky, Carlos Ridruejo, and Ben Birnbaum. Attendees at the hearing included lead petitioner Jesse Gray, Representative Tommy Vitolo plus other attendees listed on the attached sign in sheet. Note that not all attendees signed in so the sheet does not fully reflect all attendees in the room. Additional public meetings were held on 10/24/2019 and 11/4/2019. (Sign in sheets attached.) The 10/24 meeting focused on questions coming out of the public hearing and differences between the subcommittee and petitioners versions of the bylaw. The 11/4 meeting focused on how the ratio to determine “Significant Rehabilitation” would be computed, a final reconciliation with the petitioners and a vote on a final recommendation to the full Advisory Committee. The petitioners are in agreement with the Subcommittee’s motion.

Summary

Article 21 is intended to be a major step towards achieving Brookline’s goal of reducing its carbon emissions to zero by 2050. It would, with limited exemptions, prohibit the installation of new fossil fuel pipe infrastructure (natural gas, propane, fuel oil) in new construction and so called “Significant Rehabilitations”.

Background

This proposal is sponsored by a team of petitioners which include architects, lawyers, members of various advocacy groups including Mothers Out Front and the Greenspace Alliance plus 3 members of the Select Board.

The proposal is intended to support the Brookline Climate Action Plan which states the Town’s intention to reducing its greenhouse emissions to zero by 2050. One strategy is to begin requiring the complete electrification of new buildings and buildings undergoing significant renovations. While the short term greenhouse emissions effects of this strategy is dependent on the fuels used to generate electricity, it is Massachusetts state policy to increase the percentage of electricity generated from renewable sources over time. Additionally, Brookline sponsors a community aggregation program in which the default choice has a higher percentage of renewable sources than the Eversource default. Plus Town electric customers can opt up to the Brookline Green Option which has 100% renewable source. Lastly, individual electricity consumers can make additional renewable investments on their own using strategies such as installation of onsite solar panels or participation in community solar.
The bylaw would prohibit installation of new fossil fuel piping in new buildings and “significant rehabilitation” of existing buildings. The original proposal had limited exemptions for (1) portable appliances for outdoor cooking and heating (i.e., propane barbeque grills), (2) backup electrical generators and (3) the Waldo Durgin project (since that was the subject of a separate negotiation with the Town.) The original proposed effective date was June 1, 2020.

The proposal does not affect existing piping, boilers, stoves or water heaters. However, in a covered project, the bylaw as originally proposed would prohibit new piping to accommodate relocating any existing appliances. For example, in a covered “gut” renovation project (called a “Significant Rehabilitation” in the bylaw) that includes a kitchen renovation, the homeowner would not be able to install pipes to relocate a gas stove to the other side of the room or to even move it a few inches. The homeowner would need to convert to some type of electric stove; traditional resistance or induction. (Note: Under the subcommittee proposal, residential cooking appliances such as ranges, ovens and stovetops would not be covered thus allowing renovated kitchens to continue to have gas appliances, no matter where in the kitchen the homeowner wishes to place them.)

The petitioners, the Planning and Community Development Department plus various Town Boards and commissions have sponsored or participated in a number of “community feedback” sessions in addition to the normal vetting hearings that take place for Town Meeting warrant articles. As a result of the feedback prior to the subcommittee’s public hearing, the petitioners added additional exemptions for (1) restaurant kitchens, (2) large central hot water systems (with an engineer’s statement) and (3) added a waiver process where it would be otherwise impractical or financially infeasible to go with all electric systems. Additionally, with input from the Building Commissioner, they have attempted to clarify the definition of significant rehabilitation to generally correspond to a “Level 3” renovation as defined in the Building Code for commercial buildings. Exemptions proposed by others which the petitioners did not accept were (1) an exemption for all cooking, (2) a broad exemption for commercial buildings; (3) including only single family homes, and (4) including only new construction.

**Public Hearing Feedback**

Marilyn Ray Smith stated that she is a retired lawyer and an expert in gas leaks. With respect to gas leaks, the gas company’s focus is to triage; fixing the worst leaks first. The Boston area has among the oldest gas infrastructure in the nation and there are many leaks which not only contribute to greenhouse emissions, they also kill trees. The emphasis should be to reduce reliance on the gas infrastructure. New gas connections and increased reliance on the gas infrastructure will increase the need to further invest in that infrastructure when given the climate crisis we should be reducing our reliance on fossil fuels.

Tommy Vitolo spoke of the need to get to a 100% greenhouse emission free condition and there needs to be strategies on multiple fronts. He is working at the State House to increase the
percentage of electricity generated by renewables on the grid and to increase the electrification of building projects. Other levels of government are moving towards fossil fuel free systems which are contributing to a societal transition to electricity. According to Tommy, we have a financial time bomb if our goal is ripping out our gas infrastructure by 2050. We should be planning for that now.

Jay Sweiter-Shalit, and Emily (last name unknown), students at Brookline High, spoke of their concern about the future and the urgency to address the impending climate crisis.

Three architects (Kathleen Scanlon, Rick Ames and Lisa Cunningham) spoke about trends in the industry towards electric systems and how the proposal is generally practical.

Jenifer Gilbert stated that she has a number of clients concerned about the proposal. She questioned how appeals would be handled and expressed concern about the practicality of covering all kinds of commercial buildings especially lab buildings. She questioned how financial infeasibility would be measured.

Dr. Jeffrey Maklis sent an extensive email to the subcommittee regarding potential safety issues surrounding induction ranges for pregnant women and small children. (Note that petitioner Dr. Jesse Grey questioned Dr. Maklis conclusions and commented on the dangers of gas cooktops and combustion byproducts.)

Linda Olson Pehlke was concerned about the complexities of covering renovations, especially noting that none of the other municipal ordinances covered renovations. She was concerned about the definition of when a project would be covered and that the definition should be clear so that building commissioner should not be the only one to understand when a project would be covered. She also opined that the waiver provision needed work.

Paul Saner, co chair of the Economic Development Advisory Board (EDAB) stated that EDAB had concerns about the bylaw and will be making some suggestions. The main points of concern are (1) how practical this would be for all categories of commercial buildings and we should especially consider a lab exemption; (2) there needs to be a commercial kitchen exemption; (3) the implementation date needs to be moved back given the lead time on construction projects. For example, when the building code changes, there is at least 6 months lead time.

Roger Blood spoke on behalf of the Housing Advisory Board (HAB) and Maria Maffei spoke on behalf of the Brookline Housing Authority. Both bodies are examining how best to comply with or alter the proposal to address the issues involved with affordable housing.
Discussion

Electrification of our infrastructure is one strategy to reduce and eventually eliminate our reliance on fossil fuels. Currently, fossil fuels (mainly natural gas in New England) are used to generate a percentage of our electricity, which percentage will decrease over time as more renewable generating sources come on line. No one on the subcommittee took issue with the need to reduce our carbon emissions and the electrification strategy. This report will now focus on the details of the proposed bylaw and the practical aspects of the proposal.

When the bylaw was originally submitted, the petitioners listed two exclusions; outdoor cooking and heating appliances and the Waldo-Durgin project. Waldo-Durgin was excluded because it was the subject of a Memorandum of Understanding with the Town which specifically addressed how the approaches to energy efficiency are to be handled including involving the Town’s Sustainability Program Administrator during the design phase.

Note that the bylaw only applies to new construction and so called gut renovations. No one is going to have to replace any existing gas appliances. Even in a gut renovation, a gas appliance can be replaced; but no new piping can be installed unless there is an exemption. But, in order for this to work, we need to have a sense of reality as to what can be replaced by electric appliances.

Heating and Cooling

In New England, space heating consumes the most energy in buildings. In Brookline, the predominant fuel source is natural gas and fuel oil. Many factors contribute to the amount of energy consumed including the efficiency of the heating appliance (furnace, boiler, heat pump, etc.) and how well the building envelope is insulated and sealed. This bylaw only addresses the fuel source which is only one piece of the equation.

Traditional electric heat has been generated by baseboard resistance heaters which are cheap to install but very expensive to operate. The preferred electric heat sources now are either ground source or air source heat pumps. Heat pumps can be used for both air conditioning in summer and heating in winter. In winter, the refrigerant absorbs heat from the air outside (or the ground) and uses it to warm the space. Ground source heat pumps use heat drawn from geothermal wells to facilitate heat transfer. Generally, heat pumps are extremely efficient to operate (however as the temperature drops, heat pumps become less efficient and there is a point where they stop working though with today’s heat pump they will work to as low as -25F degrees. The subcommittee heard testimony that the industry is moving towards heat pumps as the preferred space heating and cooling technology and it works well for most applications.

Given the variety of commercial building types and their uses, blanket claims of practicality and financial feasibility of the technology for all uses are difficult to substantiate. The subcommittee heard testimony that at least laboratories and certain types of medical offices have higher air
circulation and replacement requirements, which heat pumps may not always be able to handle. We also need to balance the Town’s critical financial need to be competitive with other communities with respect to promoting development of buildings devoted to medicine and science with its overall goal of reducing greenhouse emissions. The Town is in a unique position to leverage its close proximity to one of the world’s great medical/science complexes.

The subcommittee is therefore proposing an exemption for such uses given the difficulty of quantifying the requirements to a degree sufficient to write into a bylaw in the timeframe of this Town Meeting. The failure to have a lab/medical exemption could work to divert such development to other close by communities.

**Domestic Hot Water**

Apparently, for residential and smaller commercial uses, there are practical alternatives to a gas hot water heater. These include traditional resistance and the newer technology heat pump hot water heaters.

For large central hot water systems, there are currently no alternates to the traditional gas hot water heater. Many large buildings are moving away from central hot water to a distributed hot water system, (the water is heated just prior to the using fixture or for a floor or unit in a building.), For systems of this type, there are electric alternatives.

The proposed bylaw doesn’t mandate moving away from a central hot water system and recognizes the lack of alternatives. However, if an alternative becomes available, there is an exemption in the proposal if the alternative is more than 150% of the capital or operating cost of a conventional gas water heater as certified by an engineer. While at first glance a 150% cost differential seems high, remember that the requirement is only in effect for new construction or a “significant rehabilitation” where hot water will be a very small fraction of the total project cost.

**Cooking**

Cooking is where residents have the most interaction with natural gas. The bylaw, as originally submitted would have prohibited new fossil fuel infrastructure for cooking appliances.

There are two electric alternatives to the traditional gas range and stove top; the standard resistance electric range and the induction electric stove top. While resistance stoves work, they deliver a different, less controllable cooking experience. Induction stoves deliver a controlled cooking experience similar to natural gas but require cookware to be made of a magnetic based material such as cast iron or magnetic stainless steel. Aluminum or copper cookware does not work.

The subcommittee received an email and heard testimony from Dr. Jeffrey Maklis, Professor of Stem Cell and Regenerative Biology, Harvard University, and Professor of Neurology
Dr. Maklis researched induction stoves when he was considering purchasing one. He stated in relevant part:

“In brief, I found that the EU regulations and analyses show that a single burner on is reasonably safe for an adult user if the pan is of “appropriate”-correct size (completely covering the burner) and is perfectly centered with precision, but that this safety disappears for a pregnant abdomen with fetal head (developing brain) closer than 1 foot away, or a small child whose head (developing brain) would get closer than 1 foot away from the front of a burner. The EU agencies all point out that pregnancy and small children position developing brains directly at the least safe position—adjacent to the cooktop and at its level. That is because the main risk is within a foot or so (30 cm) of a burner, and electromagnetic field strength from the induction cooktop is limited by EU/Swiss(now US) recommendation to approximately 6 uT (microTesla). While essentially all modern residential cooktops meet this standard for a single burner on with an optimally sized pot/pan that is perfectly centered, they fail under “real world” scenarios. Unfortunately exposure with a differently sized pot/pan or one that is not optimally centered is often found to be ~5X higher (>30 uT!) than the regulatory agencies use as their acceptable limit! This even exceeds adult “occupational limits” set by the agencies. If more than one burner is on (e.g. for a normal meal or worst at a Thanksgiving dinner), the leakage around centered or uncentered pans is additive, though some will be further away than others.”

Dr. Jesse Gray, disagreed with Dr. Maklis’s assertions and also stated that gas ranges create emissions which could be harmful.

The subcommittee also noted that there could be a potential unintended effect of a lack of residential cooking waiver in that even small relocations of gas appliances in some kitchen renovations would require new piping and would thus be prohibited.

Given (1) the testimony of Dr. Maklis, (2) the strong feelings by some about gas as a cooking energy source and (3) the unintended effect of prohibiting even small relocations of gas appliances in some kitchen renovations, the subcommittee was not prepared to support a complete ban of gas cooking appliances in projects subject to the bylaw at this time and is proposing a residential cooking appliance exemption.
Unsafe or Dangerous Condition Exemption

As originally submitted, the bylaw would not have permitted the repair of unsafe or dangerous existing gas infrastructure. An exemption has been added and agreed to by the petitioners.

Waivers and Appeals

The subcommittee and petitioners both realize that this is a new area with developing technology and an all electric infrastructure may not be practical or financially feasible in all situations not explicitly exempted by the bylaw. The subcommittee proposal creates a waiver and appeal process for these situations.

The subcommittee heard concerns from the Economic Development Advisory Board, with respect to commercial development, the Housing Advisory Board with respect to affordable housing and the Brookline Housing Authority with respect to their properties. For affordable housing in particular, capital funds may be limited to make investing in systems with lower operating costs in the long run difficult. For all these Boards, a robust and effective waiver and appeal process is an essential component in coming to support the bylaw.

The proposal establishes a “Sustainability Review Board” (SRB) to hear and decide waivers and appeals. The bylaw specifies that members shall possess areas of expertise with regards to affordable housing, commercial development, high-performance sustainable design, architecture, and mechanical, electrical, and plumbing engineering plus other technical areas as determined by the Select Board. The bylaw sets a general standard of review but requires the SRB to adopt procedural requirements with regard to filing waivers and appeals and criteria to evaluate projects. And one of the prongs for the effective date of the bylaw is the establishment of SRB and adopting procedures and criteria of review.

Other Municipal Ordinances

The movement surrounding mandating fossil fuel free infrastructures by municipal ordinance is a new one with the first such ordinance being passed in Berkley, CA on July 16, 2019. To the best of our knowledge, in the United States, only three other municipalities, all located in California, have passed similar ordinances since then. Other municipalities are considering this kind of legislation. All enacted ordinances, to date, cover only new construction and have various exemptions. They are summarized in the chart below:
<table>
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<tr>
<th>City</th>
<th>Ord. Name</th>
<th>Summary</th>
<th>Exemptions</th>
<th>Commercial Buildings?</th>
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| Brookline, MA       | Article 21                                     | Bans new fossil fuel infrastructure in all new construction and “Significant Rehabilitation(s).”                                                                                                       | 1. All cooking appliances  
2. Backup generators  
3. Outdoor cooking and heating  
4. Large central hot water heaters  
5. Waldo Durgin  
6. Labs and certain medical offices  
7. Repair unsafe conditions  
8. Waivers if “financially infeasible or impractical” | Yes                                                                |
| Berkley CA          | Ordinance No. 7.672–N.S.                       | The Berkley ordinance prohibits natural gas in new buildings. The ordinance is being rolled out gradually as the California Energy Commission (CEC) models different types of all-electric buildings. Currently, the ordinance bans installation of natural gas lines in low-rise residential buildings. As the CEC completes its modeling, the ordinance will expand to include additional building types. | Exemptions possible when a developer can demonstrate that all-electric isn't "physically feasible". There is also a general "public interest exemption" for cases where gas might be in the public interest to install vs. electric. | Eventually |
| San Luis Obispo, CA | Clean Energy Choice Program                    | The Clean Energy Choice Program "encourages" all-electric new buildings. "Unlike some cities that are banning natural gas entirely, the Clean Energy Choice Program will provide options to people who want to develop new buildings with natural gas. New projects wishing to use natural gas will be required to build more efficient and higher performing buildings and offset gas use by performing retrofits on existing buildings or by paying an in-lieu fee that will be used for the same purpose. | Commercial kitchens are exempt. Various exemptions for "public health and safety" (e.g. hospitals) and an exemption for manufacturing that requires gas (see page 39 of ordinance for full list). The Clean Energy Choice Program also includes a "Public Interest Exemption", which allows the permitting authority to exempt projects should unexpected or unintended effects of the program arise. | Yes                                                                |
| Windsor, OH         | Ordinance Adapting All-Electric Reach Code      | All-electric requirement for new single-family homes, detached accessory dwelling units, and multifamily buildings up to three stories (also referred to as “low-rise residential”)                                                                 |                                                                           | No                                                                 |
| San Jose, CA        | Building Reach Code for New Construction        | The passed ordinance will ban natural gas in the construction of new accessory dwelling units, new single family homes and new low rise and multifamily buildings.                                                                 |                                                                           | Yes                                                                 |
Heating systems in all new homes and buildings in the city must run on electricity, and all new commercial, office and industrial buildings, as well as high-rise residences, must rely entirely on electricity. Although new one- and two-story homes will be allowed to have natural gas stoves, they must be built “electric ready” with the proper wiring to enable all-electric operation in the future.

Life sciences buildings and public emergency operations centers (e.g. fire stations) need to apply for an exemption, but are eligible. For single family and three stories or less multifamily: Natural gas can still be used for stoves, fireplaces or other appliances if desired (but prewiring for electric appliances is required where natural gas appliances are used.). Nonresidential kitchens, such as for-profit restaurants and cafeterias, may appeal under certain conditions to an appointed body designated by the City Council if they want to use natural gas stoves. The advisory body’s decision can be appealed to City Council.

What renovations should be covered in addition to new construction?

Other than the Brookline bylaw, all of the bylaws referenced in the chart above cover only new construction. With new construction, the entire project can be planned and designed to maximize energy conservation and take into account the design requirements of all electric systems. Renovations present a set of complications since an all electric system will need to be retrofitted into an existing building envelope which was, in all likelihood, designed around a fossil fuel infrastructure. This only begins to make sense if all the walls are open which would be the case in a so called “gut” renovation. Much of the subcommittee’s discussion and efforts were working with the Building Commissioner and other staff in coming up with a legal definition that is understandable, relatively easy to enforce and without the unintended consequence of creating a trigger where walls are not open to the degree necessary to perform a deep energy efficiency retrofit.

For buildings subject to the commercial building code (residential buildings with 3 or more families plus commercial buildings), there is already a well defined trigger called a Level 3 renovation when triggered, requires a high degree of code compliance. Building professionals plus the Town Building Department are familiar with this trigger and it is easily computed. For those properties, it makes sense to incorporate a Level 3 renovation into the definition of “Significant Rehabilitation.”
In the residential building code, there is no parallel concept to a Level 3 commercial renovation. Our intent is to use the existing definition of Gross Floor Ratio in the zoning bylaw as the denominator to compute the percentage to define a “Significant Rehabilitation.” Since we do not want to have an inadvertent trigger, we are opting to set the trigger percentage to a very high 75%. As we gain experience with the bylaw and gather data on how it is working, the percentage trigger can be adjusted at a future Town Meeting, if appropriate.

An alternate approach to determining what is a “Significant Rehabilitation” was offered by Lee Selwin. The alternate approach uses a ratio of the Project Cost (as certified by the applicant) divided by the appraised value of the property to determine whether a rehabilitation is significant. This is an approach used to determine whether compliance with the Americans with Disabilities Act is triggered. By a vote of 1-4, the subcommittee rejected this approach. Lee indicated that he will be offering this alternative to the full Advisory Committee.

Legal issues

In Massachusetts, municipal ordinances cannot supersede the state building code which covers plumbing and other aspects of the building envelope and components. This proposed bylaw is constructed in way that attempts not to supersede the code but it is breaking new ground. As such, according to Associate Town Counsel Jonathan Simpson, there is no history or case law that directly speaks to the legal analysis of whether this bylaw is preempted. However, Mr. Simpson has cautioned that there could be several statutes that may preempt what this bylaw is attempting to do. The Office of the Attorney General (OAG), which reviews bylaws passed at Town Meeting, will not issue preliminary opinions, so the only way to know for sure whether OAG will approve a By-Law such as this, is to pass it at Town Meeting and submit it for OAG review. Even if we receive a rejection from the OAG, we will have gained some clarity as to how to approach this issue in the future. Note that even if the Attorney General approves the bylaw, it would still be subject to challenge by other parties.

Effective Date

There needs to be sufficient lead time for homeowners and developers to adjust their plans to comply with this bylaw. The subcommittee is proposing three prongs for the effective date. The effective date in the proposal is the later of:

1. January 1, 2021
2. 5 months after the Attorney General approves the bylaw
3. The date upon which the SRB is appointed by the Select Board and after a public hearing publishes its procedures and decision criteria.

Recommendation

Climate change is real and requires real action. The subcommittee recognizes that, if enacted, the bylaw will require major changes to the way the way buildings are heated and designed. But the industry has been moving in this direction and bylaws of this type will help drive the industry
further and faster in this direction. The petitioners have done their homework and are to be commended for the research and effort they have put into the proposal.

The subcommittee has been operating under the mantra, “Be bold but be prudent”. The subcommittee has worked with the petitioners and other stakeholders in crafting sensible exemptions plus a waiver and appeal process. The effective date has been extended to give homeowners and developers sufficient notice of the bylaw. The definition of “Significant Rehabilitation” has been tweaked in an effort to exclude less than gut renovations. Additionally, the bylaw does not go into effect until the Sustainability Review Board has been appointed and has published its procedures and criteria.

Even with the subcommittee’s additional prudent exemptions, Brookline will have the most aggressive ordinance of its type in North America.

**The Subcommittee with a 5-0-1 vote recommends FAVORABLE ACTION on the following language:**

Voted: That the Town amend the General By-Laws by adopting a new Article 8.39 entitled “Prohibition on New Fossil Fuel Infrastructure in Major Construction” as set forth below.

8.39.1 Purpose

This By-Law is adopted by the Town of Brookline, under its home rule powers and its police powers under Massachusetts General Laws, Chapter 40, Sections 21 (clauses 1, 18) and 21D, and Chapter 43B, Section 13, to protect the health and welfare of the inhabitants of the Town from air pollution, including that which is causing climate change and thereby threatens the Town and its inhabitants.

8.39.2 Definitions

“New Building” is defined as a new building or new accessory building (a building devoted exclusively to a use accessory to the principal use of the lot) that is associated with a valid building permit application [filed] on or after the Effective Date.

“On-Site Fossil Fuel Infrastructure” is defined as fuel gas or fuel oil piping that is in a building, in connection with a building, or otherwise within the property lines of premises, extending from a supply tank or from the point of delivery behind a gas meter (customer-side of gas meter).

“Significant Rehabilitation” is defined as a renovation project associated with a valid building permit application [filed] on or after the Effective Date of this Article that:

1. For existing structures regulated by the current edition of the Massachusetts State Building Code 780 CMR 51.00, Massachusetts Residential Code, includes the reconfiguration of space and/or building systems, in which the Work Area, not including any added space, is more than 75% of the Gross Floor Area as defined in the Brookline Zoning By-Law;

2. For existing structures regulated by the current edition of the Massachusetts State Building Code 780 CMR 34, the Massachusetts State Basic/Commercial Code, includes the reconfiguration of space and/or building systems, in which the Work Area, not including any
added space, is more than 50% of the building floor area prior to the project, as defined by the Massachusetts Building Code.

“Sustainability Review Board” (SRB) is defined as a Town Board established and appointed by the Select Board whose members shall, to the extent possible, possess areas of expertise with regards to affordable housing, commercial development, high-performance sustainable design, architecture, and mechanical, electrical, and plumbing engineering and other technical areas as determined by the Select Board. The SRB shall have at least three members with three year staggered terms. The mission charge of the SRB shall be set by the Select Board. The mission charge shall be broad enough to perform the requirements of Sections 8.39.5 and 8.39.6.

“Work Area” is defined as the portions of a building affected by renovations for the reconfiguration of space and/or building systems, as indicated in the drawings associated with a building permit application. Areas consisting of only repairs, refinishing, and/or incidental work are excluded from the Work Area.

8.39.3 Applicability

A. The requirements of this Article shall apply to all permit applications for New Buildings and Significant Rehabilitations proposed to be located in whole or in part within the Town except as specifically stated herein.

B. The requirements of this Article shall not apply to utility service piping connecting the grid to a meter, or to a gas meter itself.

C. The requirements of this Article shall not apply to piping required to fuel backup electrical generators.

D. The requirements of this Article shall not apply to piping required for food preparation (cooking appliances and related appliances).

E. The requirements of this Article shall not apply to the use of portable propane appliances for outdoor cooking and heating.

F. The requirements of this Article shall not apply to the piping required to produce potable or domestic hot water from centralized hot water systems in buildings with floor areas of at least 10,000 square feet, provided that the Engineer of Record certifies that no commercially available electric hot water heater exists that could meet the required hot water demand for less than 150% of installation or operational costs, compared to a conventional fossil-fuel hot water system.

G. So long as new fossil fuel piping is not installed, the requirements of this Article shall not apply to the extension or modification of heating systems via HVAC system modification, or modification of radiator, steam, or hot water piping.

H. The requirements of this Article shall not apply to any building being constructed subject to a Waldo-Durgin Overlay District Special Permit, as described in Section 5.06.4.k of the Zoning By-Law.

I. The requirements of this Article shall not apply to research laboratories for scientific or medical research or to medical offices regulated by the Massachusetts Department of Public Health as a health care facility.
J. The requirements of this Article shall not apply to repairs of any existing portions of a fuel piping system deemed unsafe or dangerous by the Plumbing and Gas Fitting Inspector.

8.39.4 Effective Date and Enforcement

Upon the Effective Date, no permits shall be issued by the Town for the construction of New Buildings or Significant Rehabilitations that include the installation of new On-Site Fossil Fuel Infrastructure, except as otherwise provided in Sections 8.39.3, 8.39.5, and 8.39.6. As used herein, “Effective Date” shall be the later of (1) January 1, 2021, (2) 5 months after written approval of Article 8.39 is received from the Attorney General’s Office, or (3) the date upon which the SRB has been appointed and, after a public hearing, has adopted procedural requirements with regard to filing waivers and appeals and criteria to evaluate projects under Sections 8.39.5 and 8.39.6.

8.39.5 Waivers

A waiver from Article 8.39 may be sought from the SRB on the grounds of financial infeasibility supported by a detailed cost comparison, inclusive of available rebates and credits, or impracticality of implementation. A waiver request may be made at any time and may be based upon submission of conceptual plans. The SRB shall apply its criteria to evaluate whether particular portions of a project are financially infeasible or impractical to implement under the requirements of Section 8.39 and shall issue waivers narrowly for those portions, where appropriate, rather than for an entire project. Particular consideration for waivers will be given to projects sponsored by the Brookline Housing Authority (BHA), given the BHA’s limited sources of capital funds.

8.39.6 Appeals

An appeal may be sought from the SRB following a denial of a building permit on the grounds that Article 8.39 is not applicable to a project pursuant to Section 8.39.3. Any appeal shall be supported by detailed information documenting the basis of the appeal.
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<td>20 Chapel St B+1'2</td>
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</tr>
<tr>
<td>Werner Lohe</td>
<td>25 Salisbury Rd</td>
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<tr>
<td>Carol Cuda</td>
<td>TMM 10</td>
<td></td>
</tr>
<tr>
<td>Janice Wright</td>
<td>397 Weum St</td>
<td></td>
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<tr>
<td>Thomas Van Der Meer</td>
<td>99 Cordell Rd</td>
<td></td>
</tr>
</tbody>
</table>
1/4/19
Signature
P & R Subcommittee

NAME
Jesse Gray
Werner Lohe
Zoe Lynn
Liz Cunningham
Diane Sokal
Dave Damm-Lahr
Kathleen Santon
John VanCeylan

ADDRESS
8 Greer Ter
25 Salisbury Rd
Steff
997 Newton St
161 Cypress St
71 Paddington Rd
71 Francis St
AC