PLANNING AND DEVELOPMENT SERVICES STAFF REPORT

For Planning Commission Meeting of May 7, 2024

SUBJECT: 1601 South State Street ("Southtown") Rezoning; Offer to Amend the Conditional Zoning Statement of Conditions
File No. REZ24-0003

PROPOSED CITY PLANNING COMMISSION MOTION
The Ann Arbor City Planning Commission hereby recommends that the Mayor and City Council aprove rezoning 1601 South State Street ("Southtown") by accepting the offer to amend the Conditional Zoning Statement of Conditions to change from prohibiting natural gas connections except for emergency back-up power to demonstrating continuous microgrid operations at 60-75% less carbon intensity (CI) than electricity incumbent DTE, provided in Paragraph 2.D.

STAFF RECOMMENDATION

Staff recommends that the **offer to amend** the Conditional Zoning Statement of Amended Conditions be **accepted** because it meets the intention for a reduced carbon-intense building and will result in a project that is both more sustainable and climate-friendly than conventional projects as well as the originally accepted condition.

LOCATION

The South Town C1A/R With Conditions district is located on the block bounded by South State Street (west), Henry Street (north), White Street (east) and Stimson Street (south).

Figure 1: Location Map

SUMMARY

This is a request to amend the zoning designation of the subject site by changing the adopted and incorporated conditions. The site is currently zoned C1A/R With Conditions: a) a maximum height limit, b) a maximum vehicle parking space limit, c) a use limitation, and d) a limitation on natural gas connections.

The proposed zoning is C1A/R With Conditions: a) a maximum height limit, b) a maximum vehicle parking space limit, c) a use limitation, and d) a requirement to operate a carbon-efficient continuous microgrid.

Specifically, the applicant requests to change condition d, the limitation on natural gas connections, from "the property shall have no natural gas connections except for emergency

back-up power," to "the property will demonstrate continuous microgrid at 60-75% less carbon intensity (CI) than electricity incumbent DTE." Rather than powering the project with electricity provided by DTE Electricity, the project will generate its own electricity from fuel cells using renewable natural gas fuels or hydrogen fuels.

An amendment or change to Conditional Zoning Statements of Conditions, being adopted and incorporated into Chapter 55 of the Ann Arbor City Code, is subject to the review and approval procedures of a rezoning petition.

EXISTING CONDITIONS AND BACKGROUND

The 1.7-acre block was rezoned to C1A/R With Conditions and the Southtown Conditional Zoning Statement of Conditions was adopted and incorporated into the Unified Development Code by Ordinance No. ORD-23-24, approved September 5, 2023 and effective September 24, 2023. Also on September 5, 2023, the Southtown Site Plan and Development Agreement were approved.

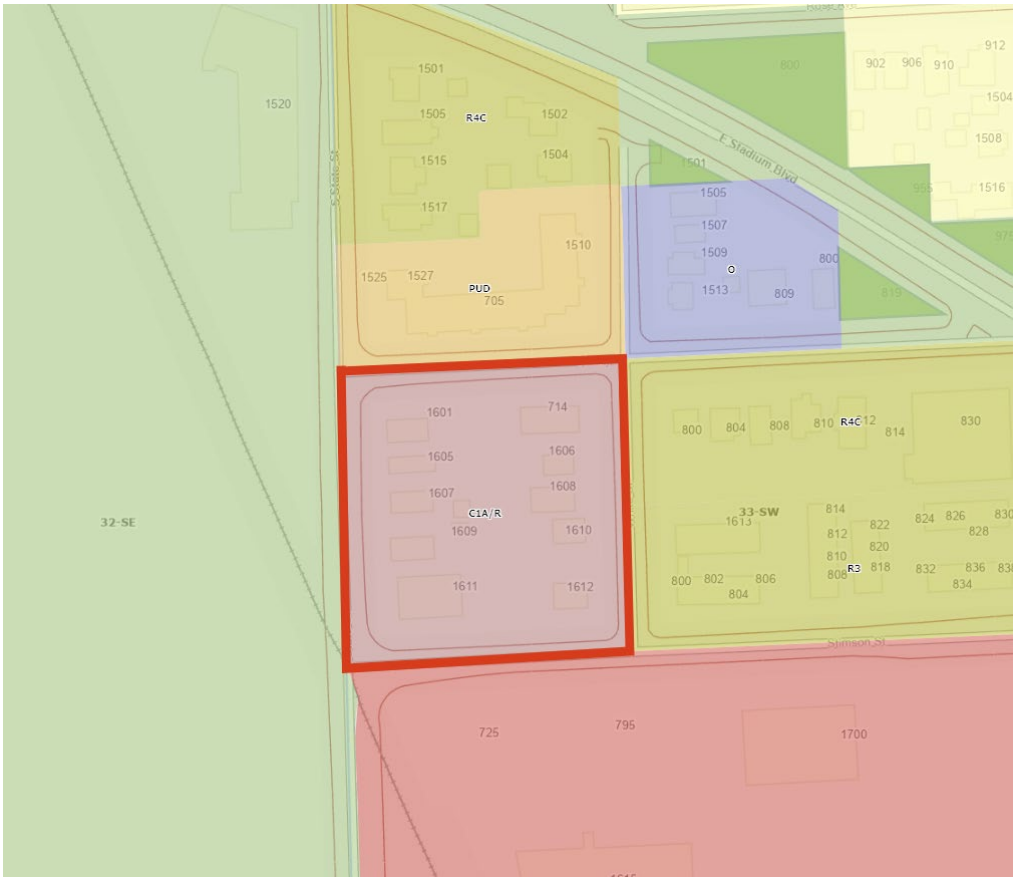

Figure 2: Current Zoning Map

The Southtown Site Plan[1] allows for construction of a 246,670-square foot building having two multi-story towers on top of a single-story podium. The development includes commercial and

[1] File no. SP22-2017. Site plan granted a variance (file no. ZBA23-0012, May 24, 2023) to exclude floor area used for at-grade parking from FAR calculation and site plan utilized pedestrian amenity floor area premium (no longer available as of December 24, 2023 per ORD-23-32) and incorporated permitted setback alternatives.

residential amenity space on the ground floor, 216 apartments on upper floors and a 54-space vehicle parking garage within the podium.

The Southtown project also included a petition[2] to vacate the 16-foot-wide unimproved platted alley through the block, which was completed by resolution of City Council on September 5, 2023.

REZONING PETITION TO AMEND CONDITIONS

Offering or revising conditions to a zoning designation is considered a petition to rezone. In this case the rezoning is from C1A/R With Conditions provided in the Southtown Statement of Conditions to C1A/R With [Amended] Conditions. The petition offers to change the condition that "the property shall have no natural gas connections except for emergency back-up power," to "the property will demonstrate continuous microgrid at 60-75% less carbon intensity (CI) than electricity incumbent DTE."

Current Condition	Proposed Condition
"The Property shall have no natural gas connections except for emergency back-up power."	"The Property will demonstrate continuous microgrid operation at 60-75% less Carbon Intensity (CI) than electricity incumbent DTE."

Current Power Plan – At the time of site plan approval, the Southtown project was planned to be powered by electricity provided by DTE Electric through its existing electrical grid (the "electricity incumbent"). According to DTE's website, "DTE Electric generates, transmits and distributes electricity to 2.3 million customers in southeastern Michigan. With an 11,084 megawatt system capacity, the company uses coal, nuclear fuel, natural gas, hydroelectric pumped storage and renewable sources to generate its electrical output. Founded in 1903, DTE Electric is the largest electric utility in Michigan and one of the largest in the nation."

The Southtown project planned to only have a natural gas connection to its on-site emergency back-up internal combustion engine generators to maintain electricity when the DTE grid was down.

Proposed Power Plan – The Southtown project now plans to power and operate on-site fuel cells to generate its own electricity. Initially, the fuel source to the fuel cell is ideally renewable natural gas (RNG) produced specifically from agricultural emissions or biodigestion. If such RNG sources are not available, the fuel source will be commercially available RNG from DTE Gas. The long-term plan is to use green or blue hydrogen fuels.

From the Fuel Cell & Hydrogen Energy Association at www.fchea.org (highlighting added by staff):

> *A fuel cell is a device that generates electricity through an electrochemical reaction, not combustion. In a fuel cell, hydrogen and oxygen are combined to generate electricity, heat, and water. Fuel cells are used today in a range of applications, from providing power to homes and businesses, keeping critical facilities like hospitals, grocery stores, and data centers up and running, and moving a variety of vehicles including cars, buses, trucks, forklifts, trains, and more.*
>
> *Fuel cell systems are a clean, efficient, reliable, and quiet source of power. Fuel*

[2] File no. SV22-2001. Resolution no. R-23-326.

cells do not need to be periodically recharged like batteries, but instead continue to produce electricity as long as a fuel source is provided.

A fuel cell is composed of an anode, cathode, and an electrolyte membrane. A typical fuel cell works by passing hydrogen through the anode of a fuel cell and oxygen through the cathode. At the anode site, a catalyst splits the hydrogen molecules into electrons and protons. The protons pass through the porous electrolyte membrane, while the electrons are forced through a circuit, generating an electric current and excess heat. At the cathode, the protons, electrons, and oxygen combine to produce water molecules. As there are no moving parts, fuel cells operate silently and with extremely high reliability.

Due to their chemistry, fuel cells are very clean. Fuel cells that use pure hydrogen fuel are completely carbon-free, with their only byproducts being electricity, heat, and water. Some types of fuel cell systems are capable of using hydrocarbon fuels like natural gas, biogas, methanol, and others. Because fuel cells generate electricity through chemistry rather than combustion, they can achieve much higher efficiencies than traditional energy production methods such as steam turbines and internal combustion engines. To push the efficiency even higher, a fuel cell can be coupled with a combined heat and power system that uses the cell's waste heat for heating or cooling applications.

Fuel cells are also scalable. This means that individual fuel cells can be joined with one another to form stacks. In turn, these stacks can be combined into larger systems. Fuel cell systems vary greatly in size and power, from combustion engine replacements for electric vehicles to large-scale, multi-megawatt installations providing electricity directly to the utility grid.

By powering and operating an on-site fuel cell to generate its own electricity, the Southtown project will become a "continuous microgrid operation." By using hydrocarbon fuels such as RNG to produce electricity, the Southtown microgrid will achieve much higher efficiencies than DTE-provided electricity which is at least partially generated from coal. If pure hydrogen can be used to produce the electricity, the Southtown microgrid could be completely carbon-free.

Because the South Town Conditional Zoning Statement of Conditions, and Development Agreement, have not yet been signed or executed, staff have prepared a new, amended Southtown Conditional Zoning Statement of Conditions (attached) for signature and execution when construction is ready to begin. A revised Development Agreement will be prepared for City Council approval separately.

Prepared by Alexis DiLeo, City Planner
Reviewed by Brett Lenart, Planning Manager and Hank Kelley, Deputy Planning Manager

Attachments: Petition to Change South Town Conditional Zoning Statement of Conditions
Southtown Conditional Zoning Statement of Conditions (draft April 29, 2024)
South Town Conditional Zoning Statement of Conditions (approved, unsigned)
Ordinance No. 23-24 (South Town Rezoning)
May 16, 2023 and June 21, 2023 Planning Staff Reports (1601 S State St)
First Amendment to Southtown Development Agreement (draft April 30, 2024)
Southtown Development Agreement (approved, unsigned)
Zoning Map and Aerial Photo

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