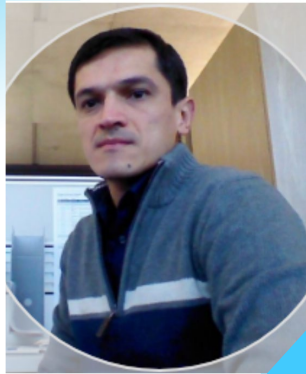


Digital Twins - as engines of urban planning innovation

Committee of the Whole (Working Session)
April 1, 2026




Nice to meet you



**Juan Carlos
Molina**

Manager, Planning
GIS and Analytics.

Agenda

- 
1. Digital Twins, virtual replicas.
 2. Digital Twins applications in Municipal environments.
 3. Technology in Development and Parks Planning supporting digital twins.
 4. Planning Web Applications Digital Twins
 1. PLANit
 2. 3D
 3. Zoning
 4. AI

Digital twins, virtual replicas:

- ▶ A data-driven digital replica of municipal environments in the real world, such as a buildings, roads, process, or system.
- ▶ It connects to data sources, so the digital model stays aligned with reality
- ▶ They combine Geographic Information Systems (GIS), Internet of Things (IoT) sensors, 3D models and AI to create a living data model
- ▶ Allow municipal staff to monitor performance, simulate future scenarios, test changes (*Land use, zoning etc.*) and optimize operations

Digital Twins applications in Municipal environments

- Development scenarios testing (*simulations, predictive analytics*)
- Design, implement and monitor policy outcomes, (*simulate future scenarios and impacts for Zoning and Official plan, test changes*)
- Improve community engagement and transparency (*through online visualizations*)
- Emergency preparedness (*NG-911*)
- Monitor infrastructure aging, climate adaptation and mobility, among others (*optimize operations*)

Technology in Development and Parks Planning supporting digital twins

(2015)
 -PLANit implementation
 -CAD to GIS data migration



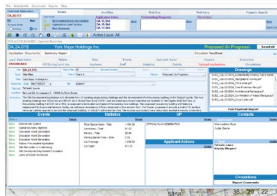
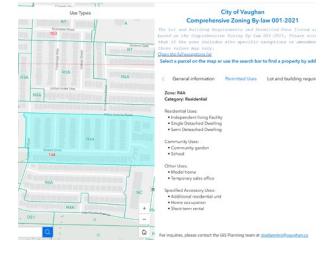
(2019)
 Automated Development Application data processing



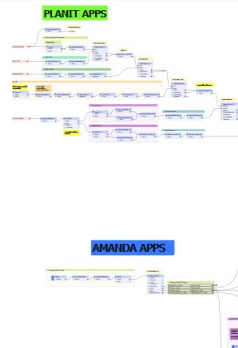
(2022)
 -AMANDA implementation
 -Dev. Apps. Online submissions



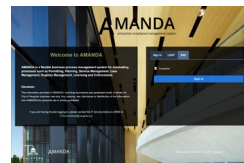
(2025)
 -New PLANit Viewer
 -Official Plan Digitization



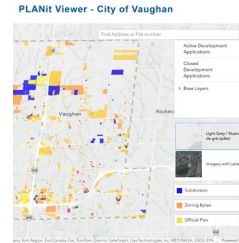
(2018)
 -Database Enhancement
 -New Automation Technology
 -Online Mapping technology



(2021)
 CZBL Digitization



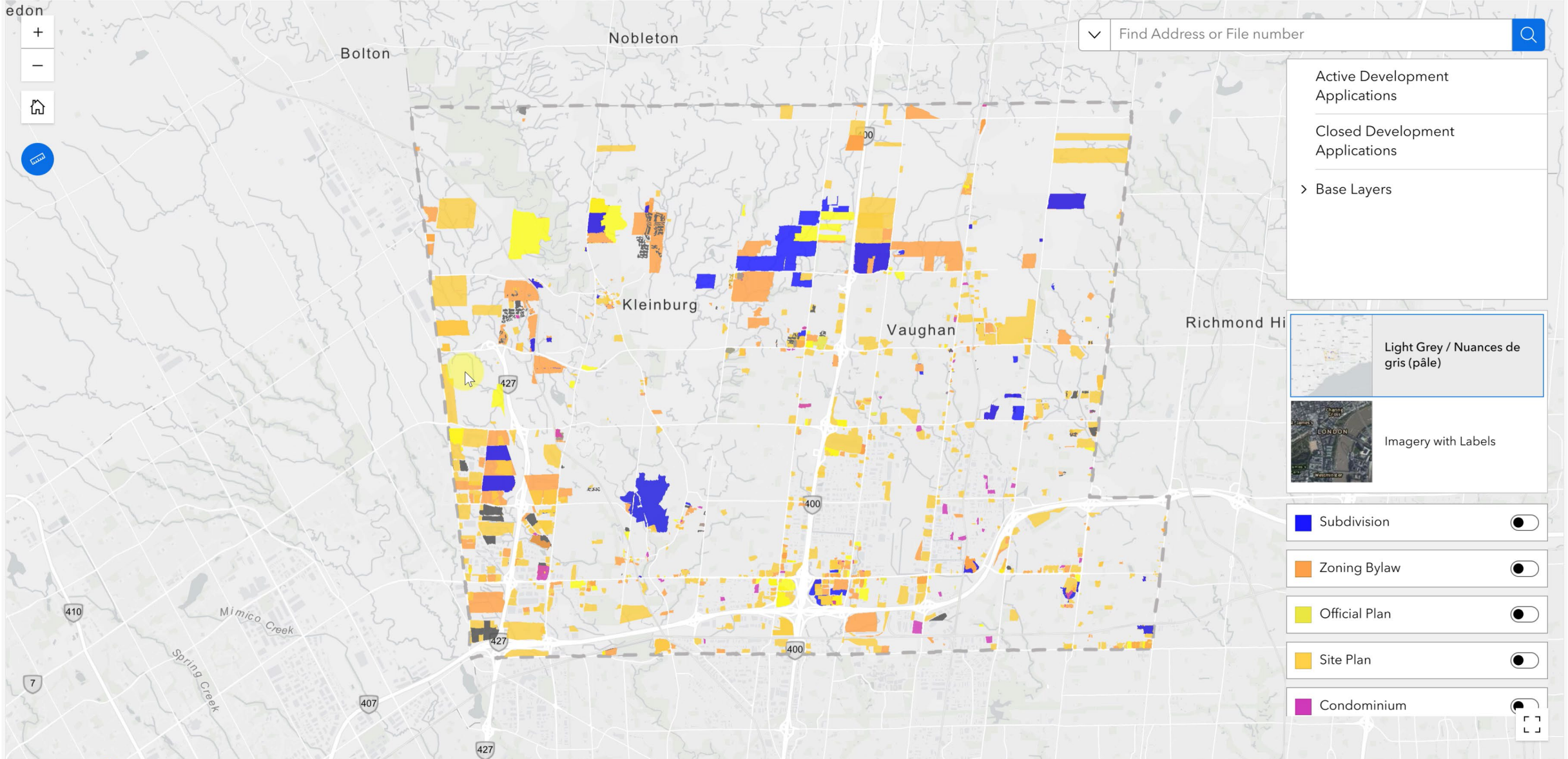
(2024)
 3D Digital Twin



(2026)
 -Approved Residential Units
 -Housing Pledge tracking
 -Zoning Permitted Uses/Lot building Requirements
 -Artificial Intelligence



PLANit Viewer - City of Vaughan



Find Address or File number

- Active Development Applications
- Closed Development Applications
- > Base Layers

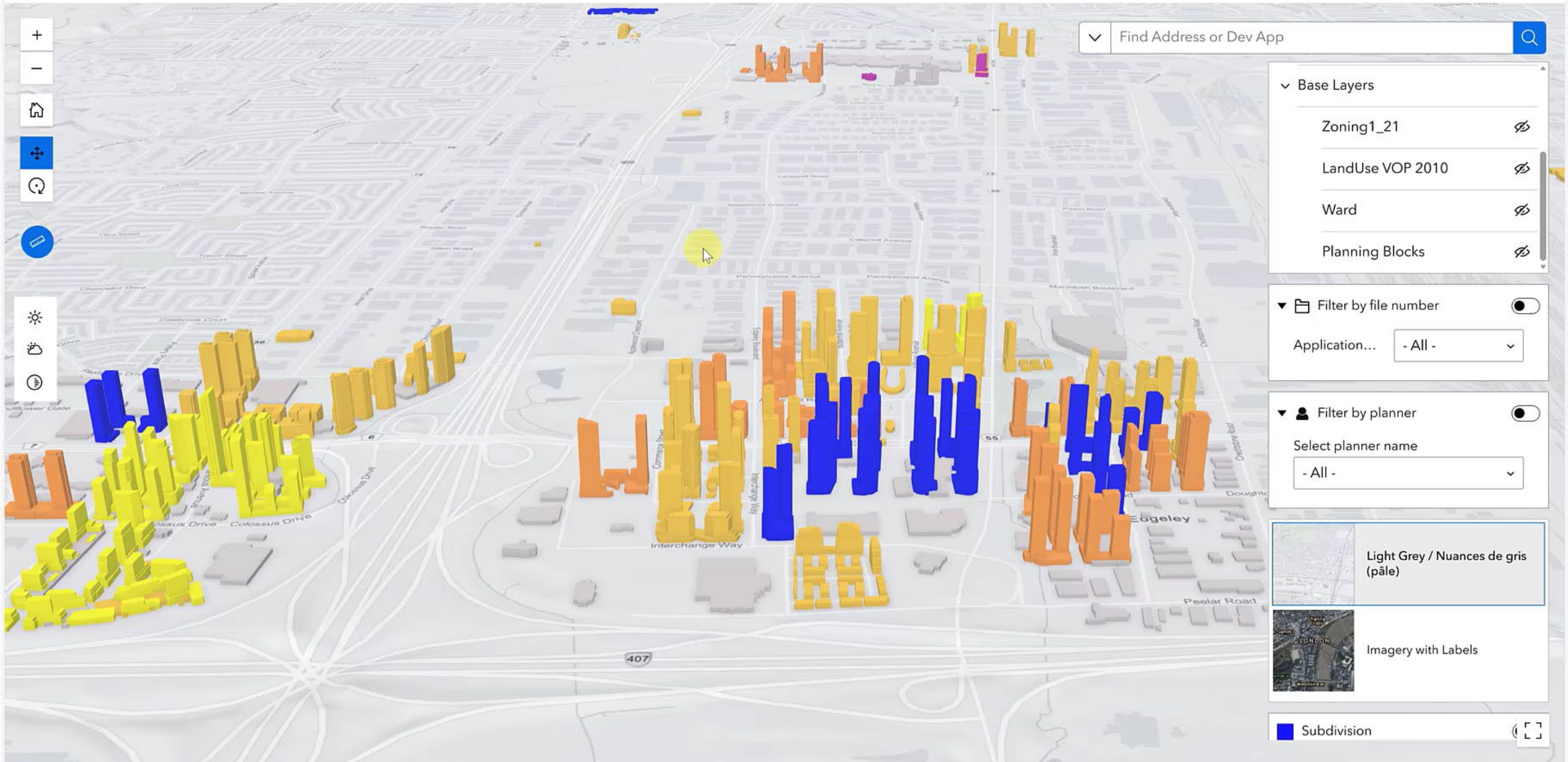
Light Grey / Nuances de gris (pâle)

Imagery with Labels

- Subdivision
- Zoning Bylaw
- Official Plan
- Site Plan
- Condominium

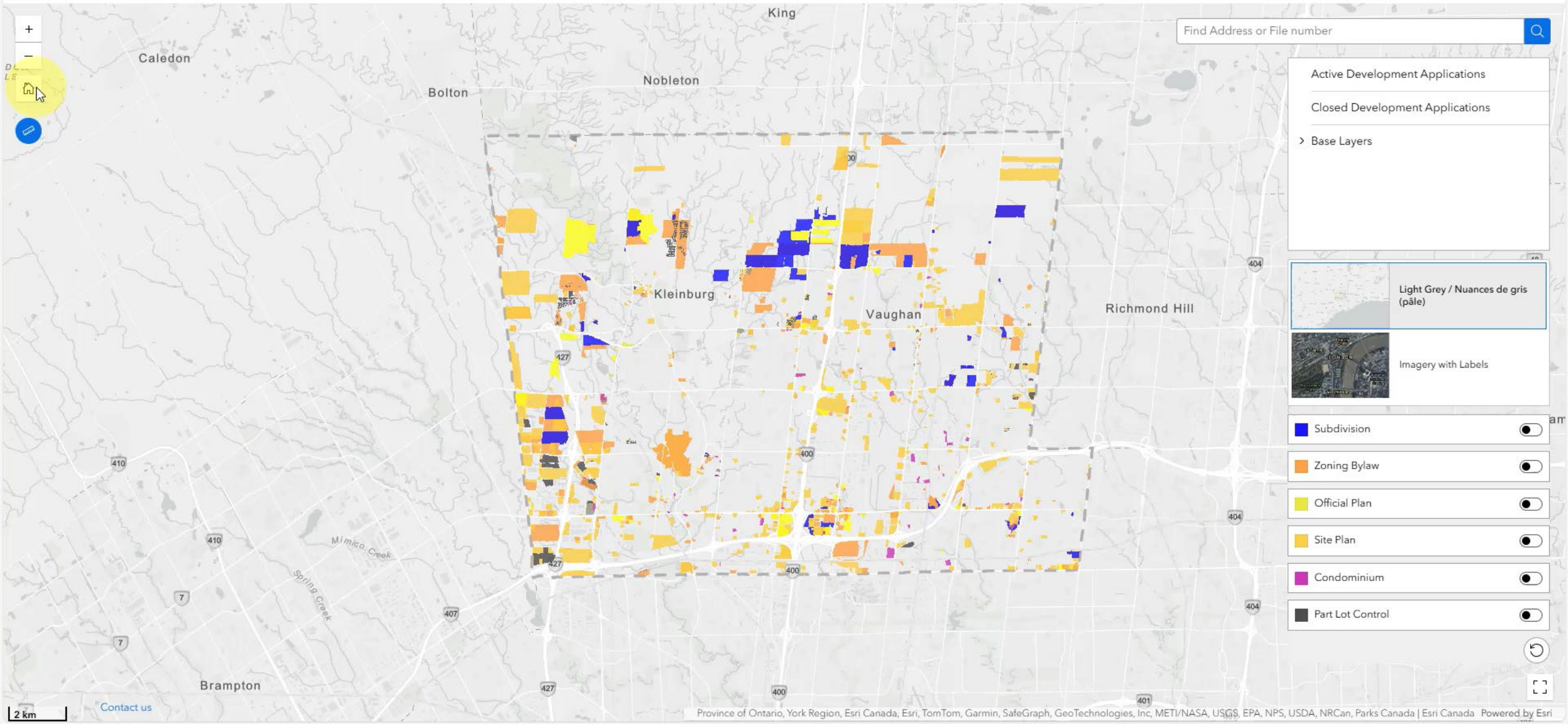


PLANit 3D - City of Vaughan





PLANit Viewer - City of Vaughan



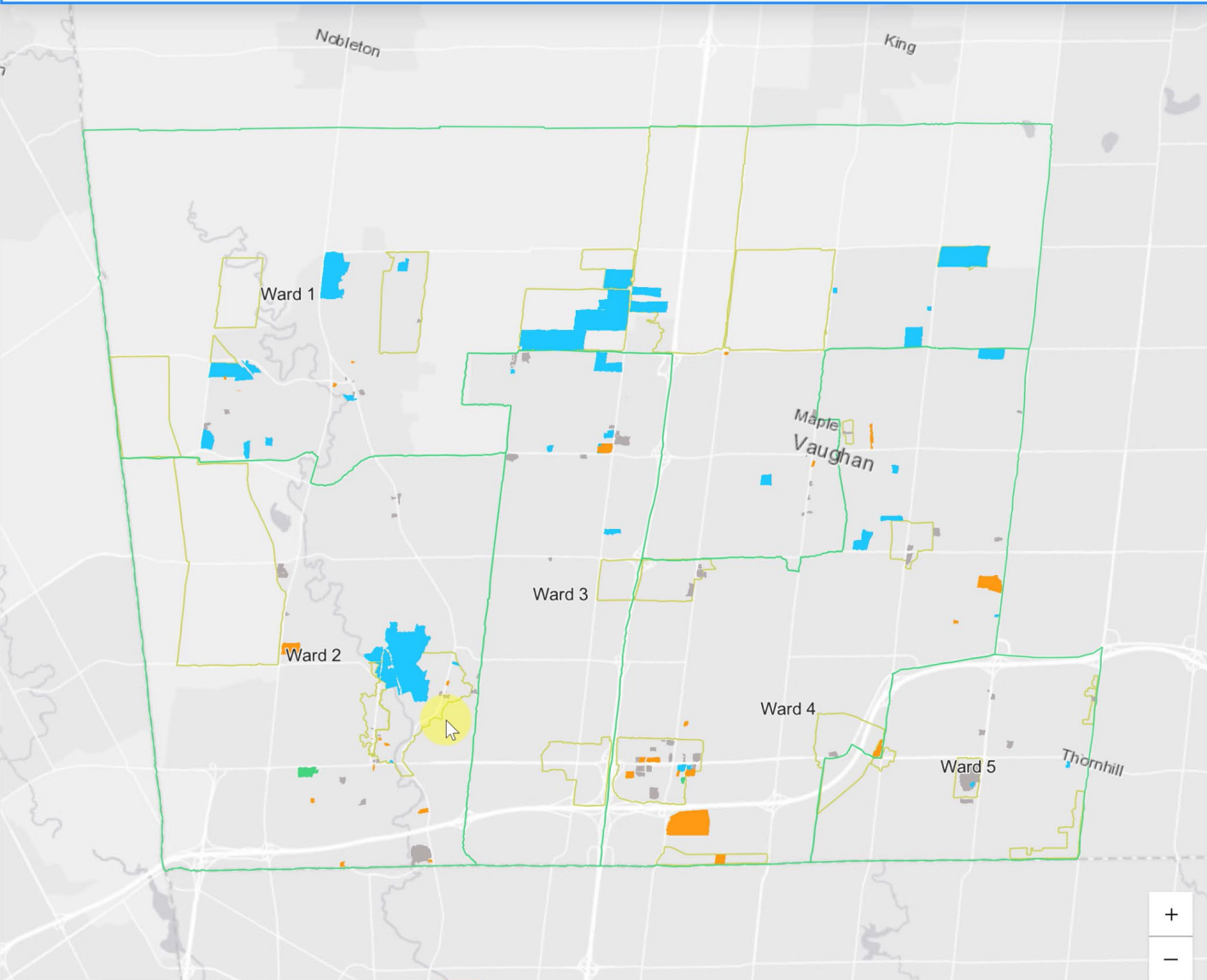
Find Address or File number

- Active Development Applications
- Closed Development Applications
- > Base Layers

Light Grey / Nuances de gris (pâle)

Imagery with Labels

- Subdivision
- Zoning Bylaw
- Official Plan
- Site Plan
- Condominium
- Part Lot Control



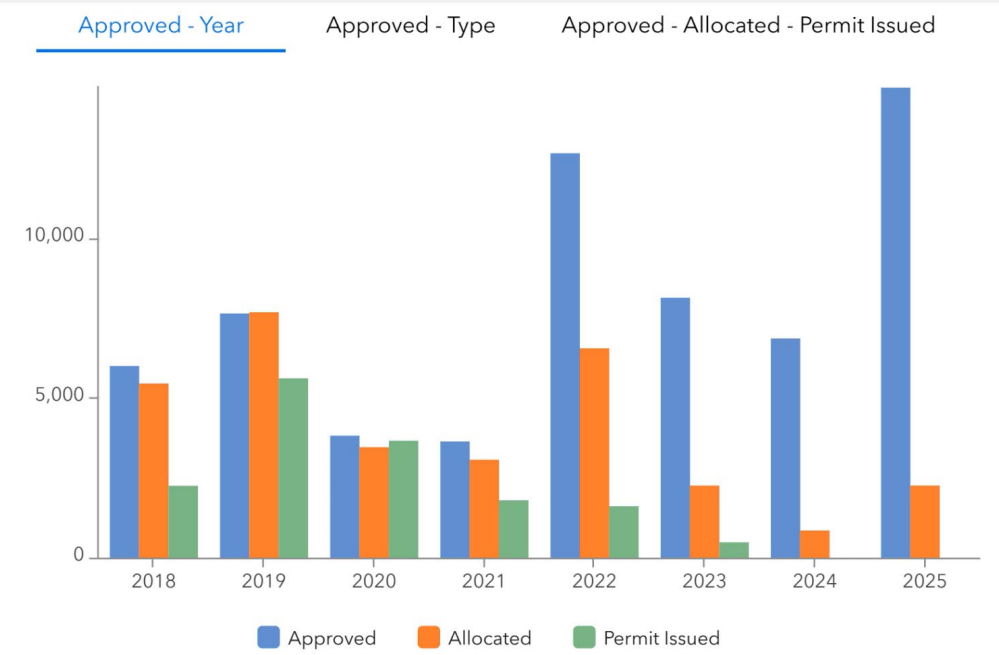
Residential Units Dashboard

Units approved through multiple related applications are recorded only once
Council meeting last updated: Nov. 25, 2025

Year Approved

- All -
- 2018
- 2019
- 2020
- 2021
- 2022
- 2023
- 2024
- 2025

Residential Unit Approvals and Allocations Overview



Residential Units Dashboard

Units approved through multiple related applications are recorded only once

- 2018
- 2019
- 2020
- 2021
- 2022
- 2023
- 2024
- 2025

- Official Plan
- Site Plan
- Subdivision
- Zoning

- All -
- Ward 1
- Ward 2
- Ward 3
- Ward 4
- Ward 5

Approved applications with outstanding building permits

Permit status

Outstanding Permits

Table

48,279

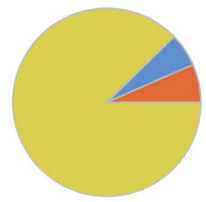
Approved residential units without building permits



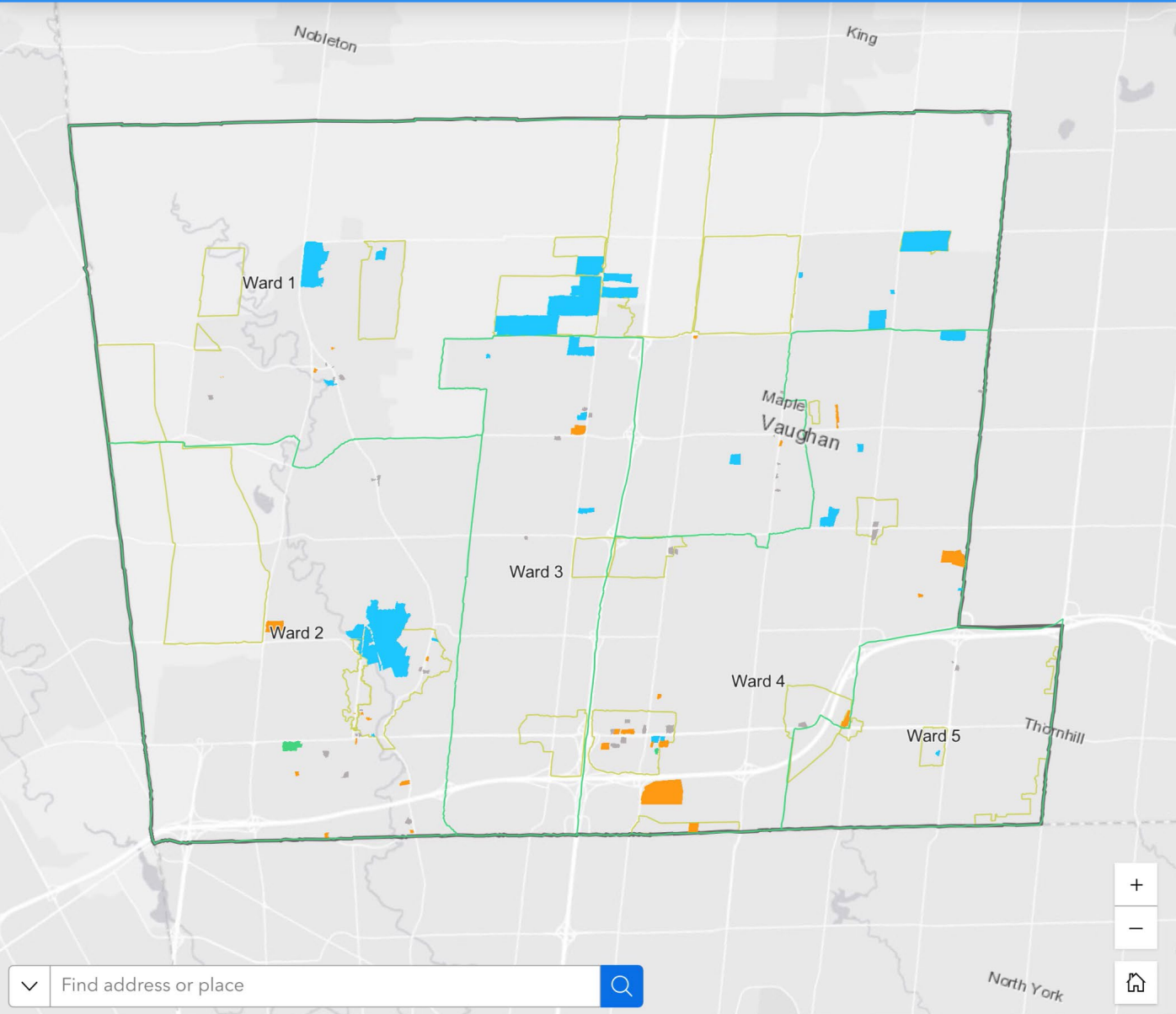
- Official Plan
- Site Plan
- Subdivision
- Zoning

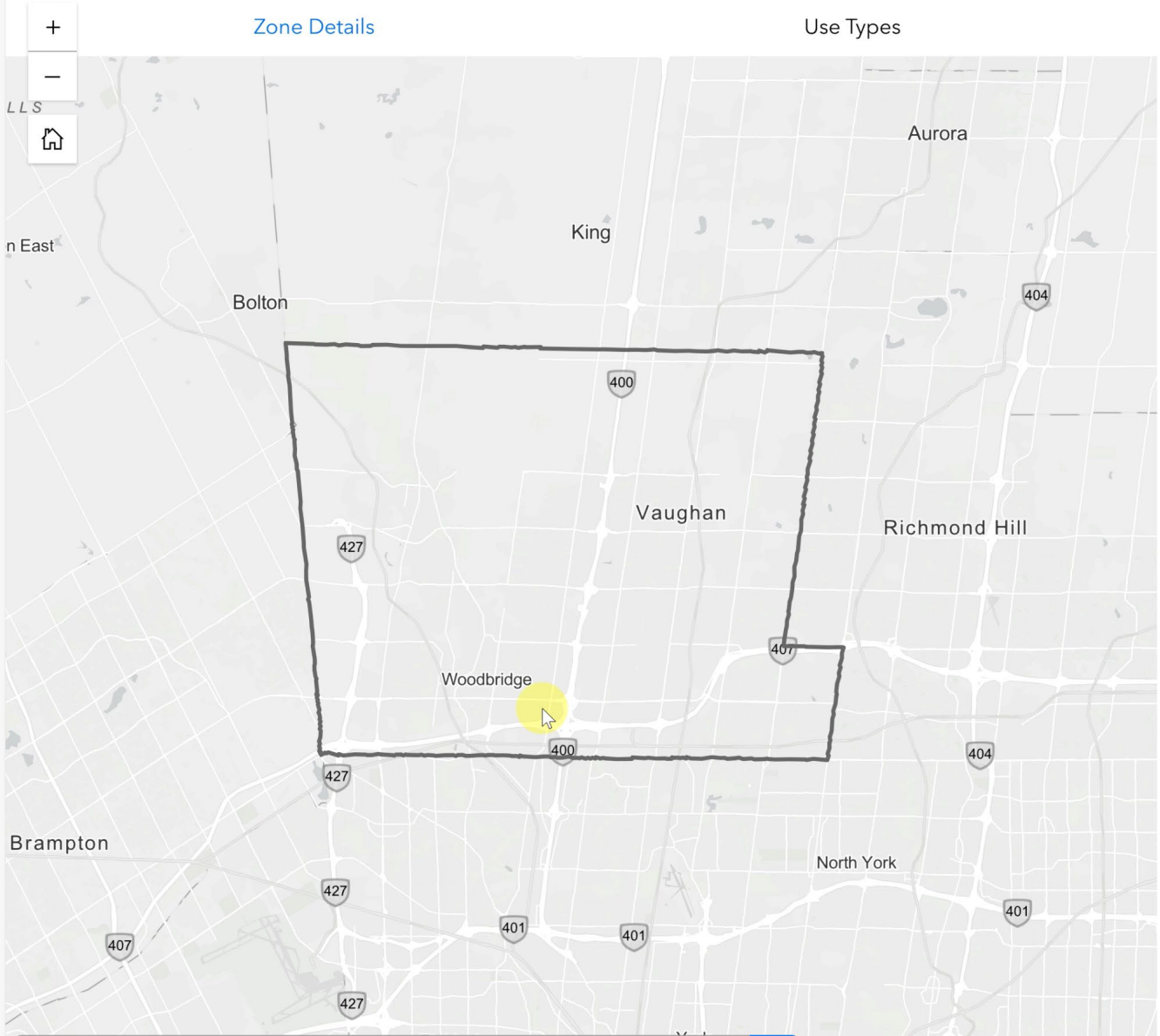
17,268

Allocated residential units



- Apartment
- SemiDetached
- Single
- Townhouse





City of Vaughan Comprehensive Zoning By-law 001-2021

The Lot and Building Requirements and Permitted Uses listed are based on the Comprehensive Zoning By-law 001-2021. Please note that if the zone includes site-specific exceptions or amendments, these values may vary.
[Open the full exceptions list](#)

Select a parcel on the map or use the search bar to find a property by address

- General information
- Permitted Uses
- Lot and building requirements

No feature selected

Find by Address or Schedule A Number or Exception number

For inquiries, please contact the GIS Planning team at gisplanning@vaughan.ca.



CAÑON CITY
COLORADO



[Learn how EuclidHL can help your organization](#)



Hi, I'm EuclidHL for Cañon City, your planning and zoning assistant. Here are some things I can help you with:

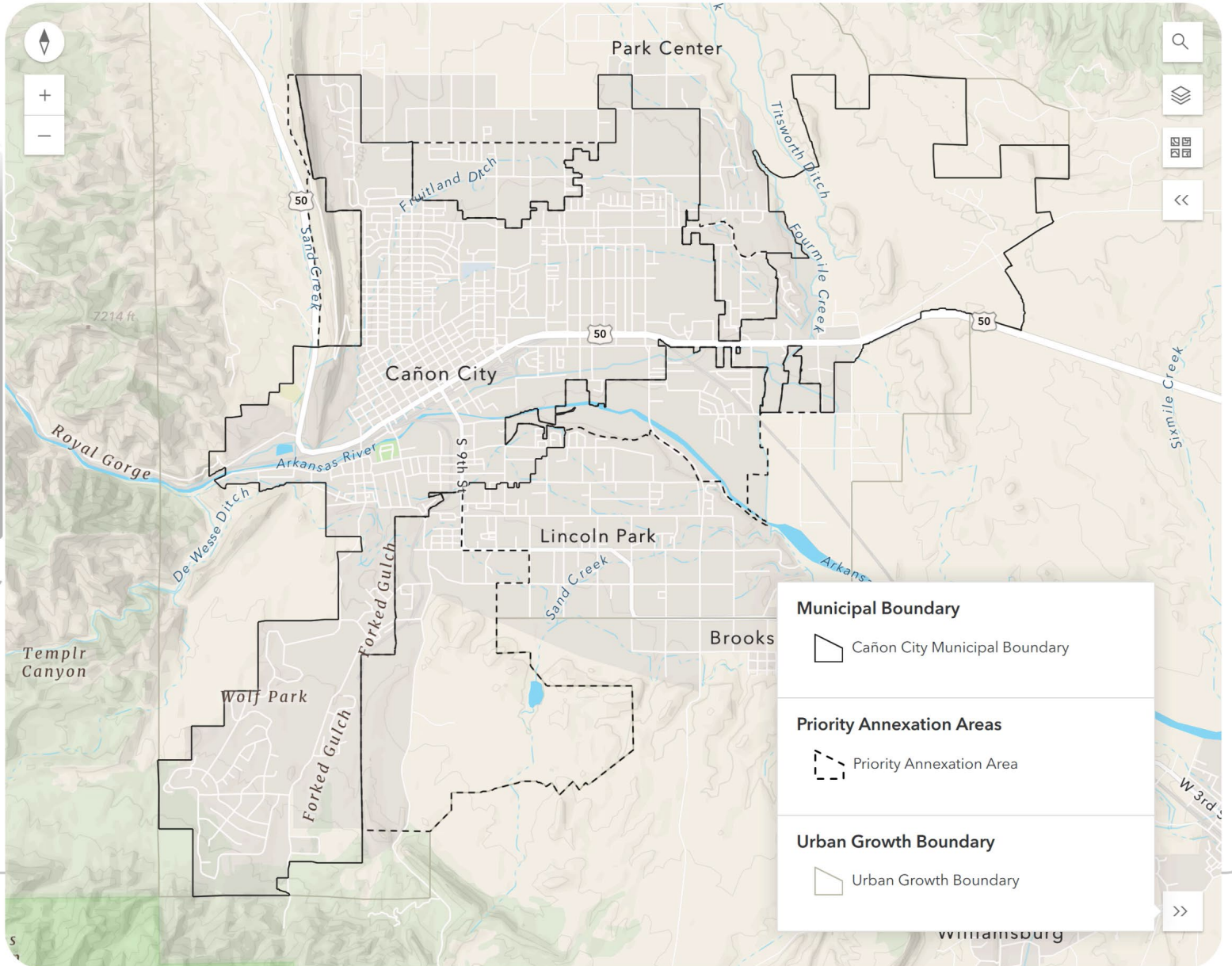
- Type in a Cañon City address and I'll tell you about its zoning (e.g., Tell me about 323 N. 16th St)
- Ask about property modifications or uses (e.g., Can I keep bees on my property?)
- Ask about business rules or where you can open a business (e.g., Where can I open an automobile repair shop? or Can I put a sandwich board sign on the sidewalk in front of my business?)
- Ask about development review or plans for the city's future (e.g., What is the process for development application review and approval? or Does the city plan to add new bike lanes?)

What would you like help with?

I



EuclidHL can make mistakes. Check important info.



Municipal Boundary

- Cañon City Municipal Boundary

Priority Annexation Areas

- Priority Annexation Area

Urban Growth Boundary

- Urban Growth Boundary

Thank you