U.S. EPA Risk Assessment for Sterigenics-Willowbrook

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What we'll cover

- Key Terms
- EPA's Sterigenics Willowbrook Risk Assessment
  - What the Assessment Examined
  - Areas the Assessment Covered
  - Limitations and Uncertainties
- Review of Results

Two Key Terms

- ***Air toxics*** are pollutants that are known or suspected to cause cancer or other serious health effects
  - Also known as “hazardous air pollutants”
  - Ethylene oxide is an air toxic
- ***Cancer risk*** refers to the chance that breathing in an air toxic will cause people to develop cancer
  - Separate from the risk of developing cancer from other causes
  - EPA describes that chance as a number in 1 million people
    - For example, 1 in 1 million means that 1 person in 1 million people could develop cancer from breathing air toxics

Areas the risk assessment covered

- This risk assessment estimates the risks for several communities including:
  - Willowbrook
  - Burr Ridge
  - Hinsdale
  - Darien
  - Indian Head Park
  - Western Springs

We evaluated two scenarios

1. Potential risks from the Sterigenics-Willowbrook facility that exist after the emission controls that were installed in July 2018
   - Called the “Pre-Seal Order”

2. Potential risks assuming that the emissions from the facility is more highly controlled
   - Called the “Illustrative Future Case”

Assumptions in the scenarios

- For both scenarios the assessment estimates:
  - Risk in areas where people live
  - Risk in areas where people work close to the facility (but not at the facility)
- For areas where people live, we assume continuous 24/7 exposure for 70 years
- For areas where people work close to the facility, we assume people are exposed 8.5 hours a day, 5 days a week, 50 weeks a year for 25 years

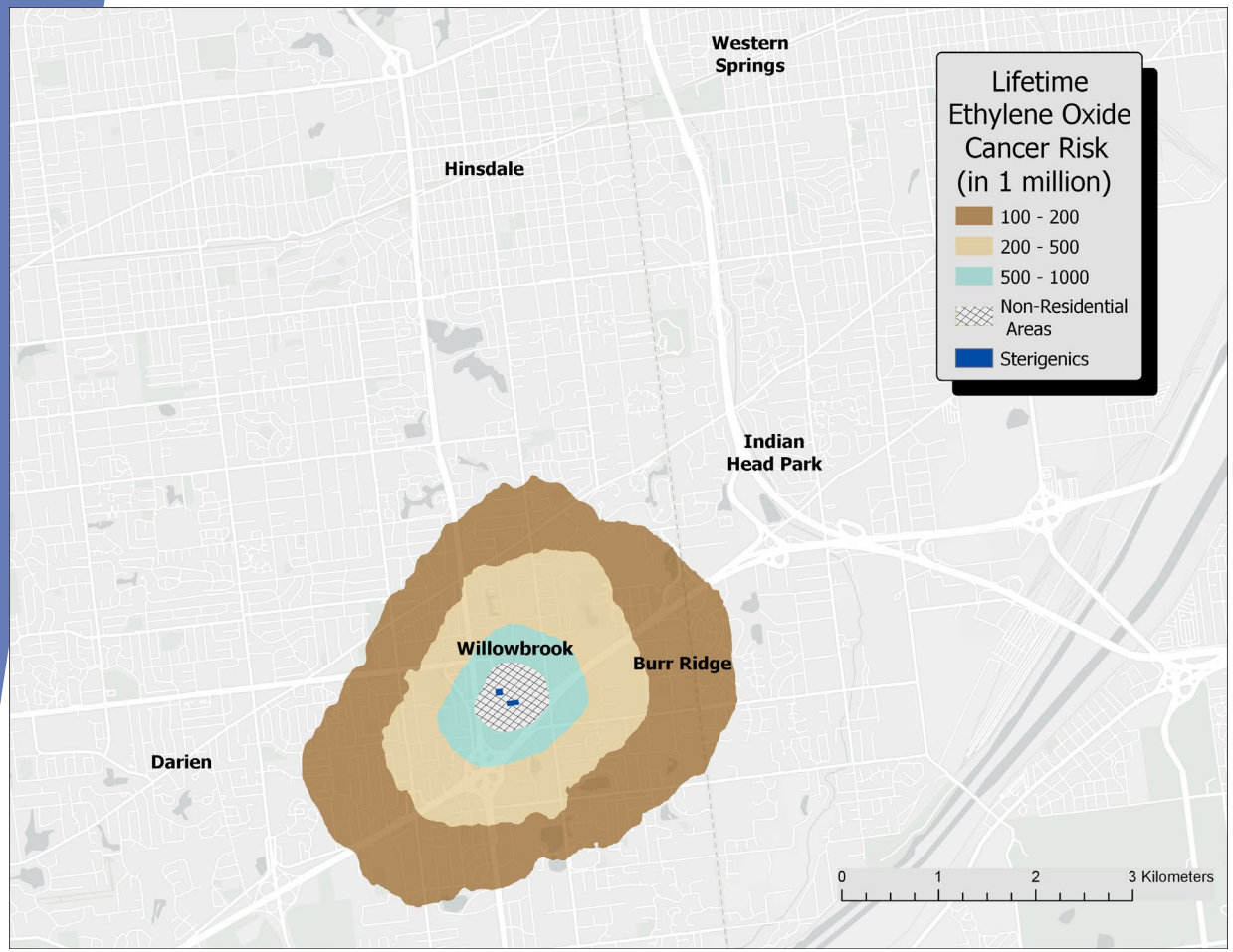
Limitations and Uncertainties

This risk assessment:

- Focuses on risks from the Sterigenics facility only
  - Does not assess comprehensive risk from all air pollution sources
- Provides *general* estimates of a population's risk of getting cancer due to EtO emissions from the Sterigenics-Willowbrook plant
  - Cannot be used predict an individual's chance of getting cancer
- Is more likely to over-estimate risk than underestimate risk due to what we call 'health-protective assumptions'

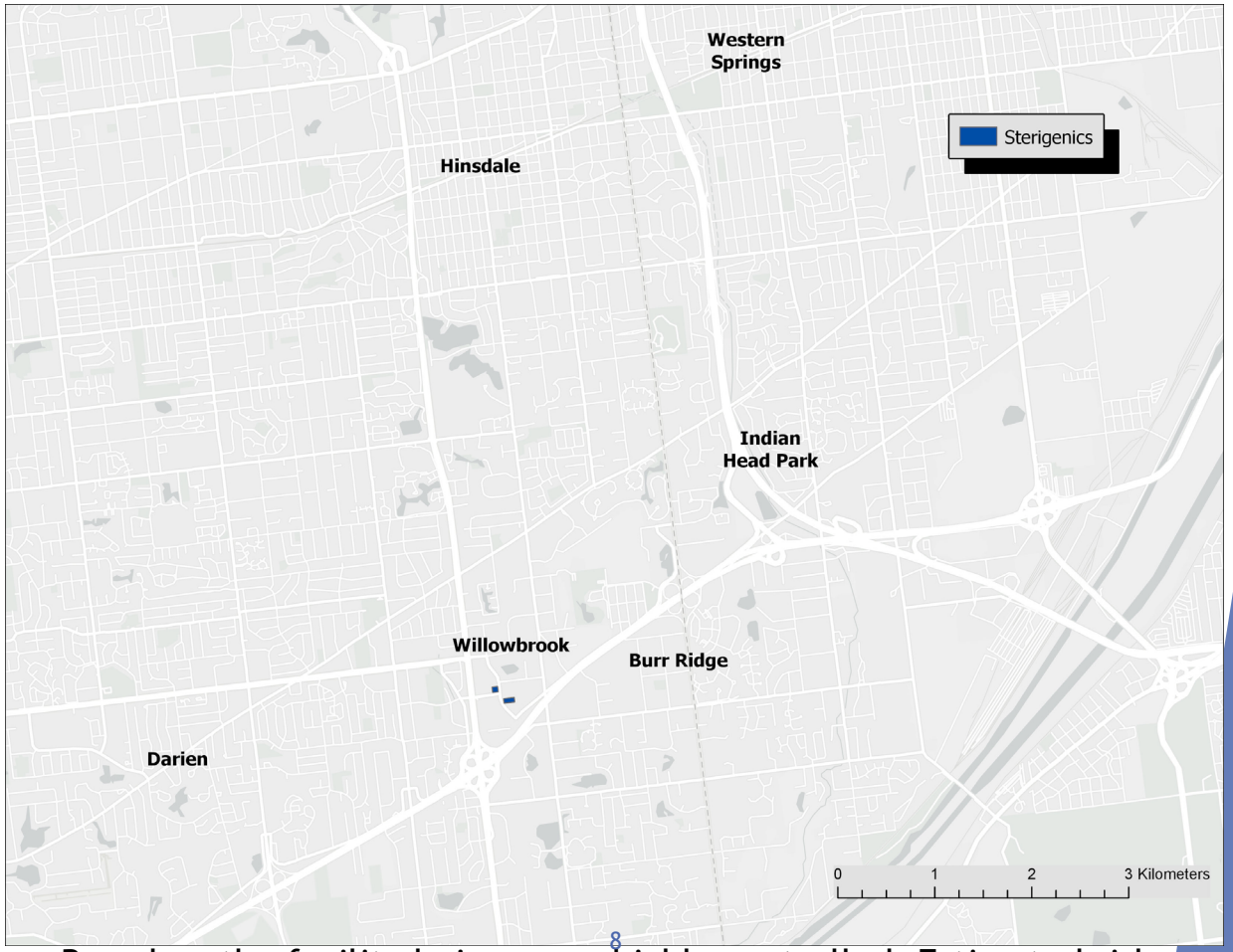
Estimated *Residential* Lifetime Cancer Risk from ethylene oxide emissions from Sterigenics Willowbrook

Pre-Seal Order Conditions



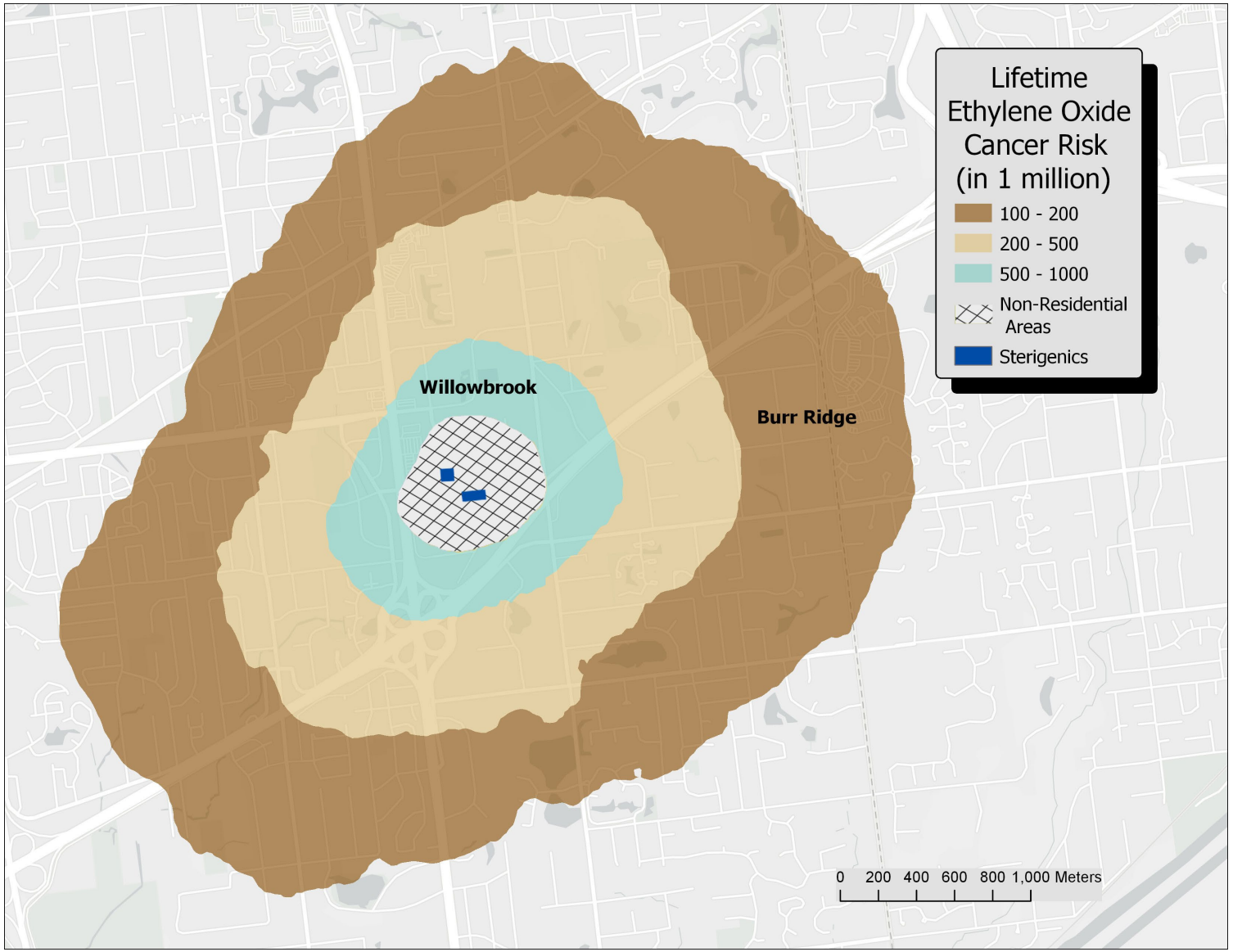
Based on operations before seal order (Reflects emissions reductions from controls installed in Summer 2018)

Illustrative Future Case



Based on the facility being more highly controlled. Estimated risks would be below 100 in 1 million – and potentially as low as 1 in 1 million.

Zooming in:
Estimated *Residential* Lifetime Cancer Risk



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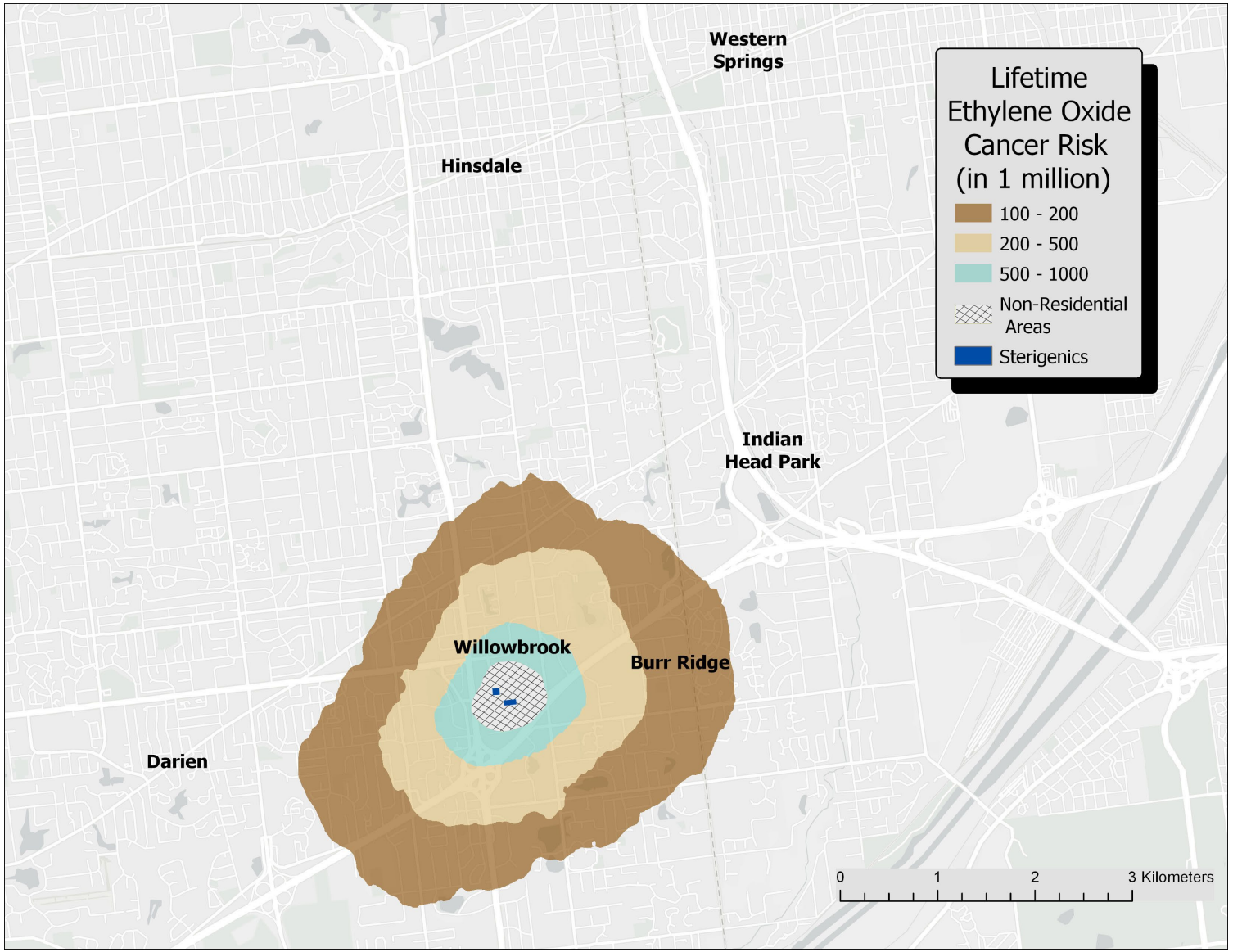

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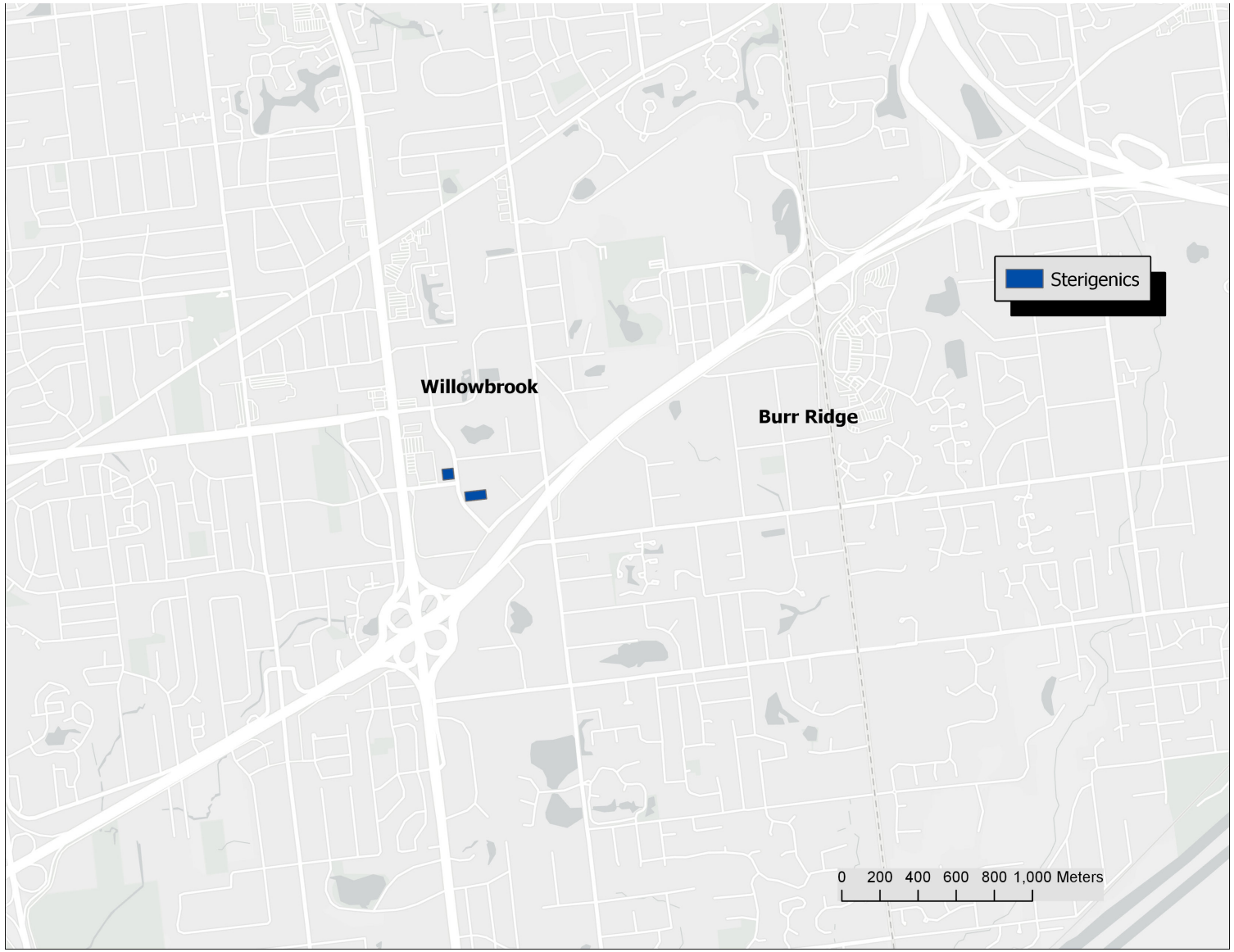

Illustrative Future Case

Based on the facility being more highly controlled. Estimated risks would be below 100 in 1 million – and potentially as low as 1 in 1 million

Estimated *Occupational* Lifetime Ethylene Oxide Cancer Risk from Sterigenics Willowbrook

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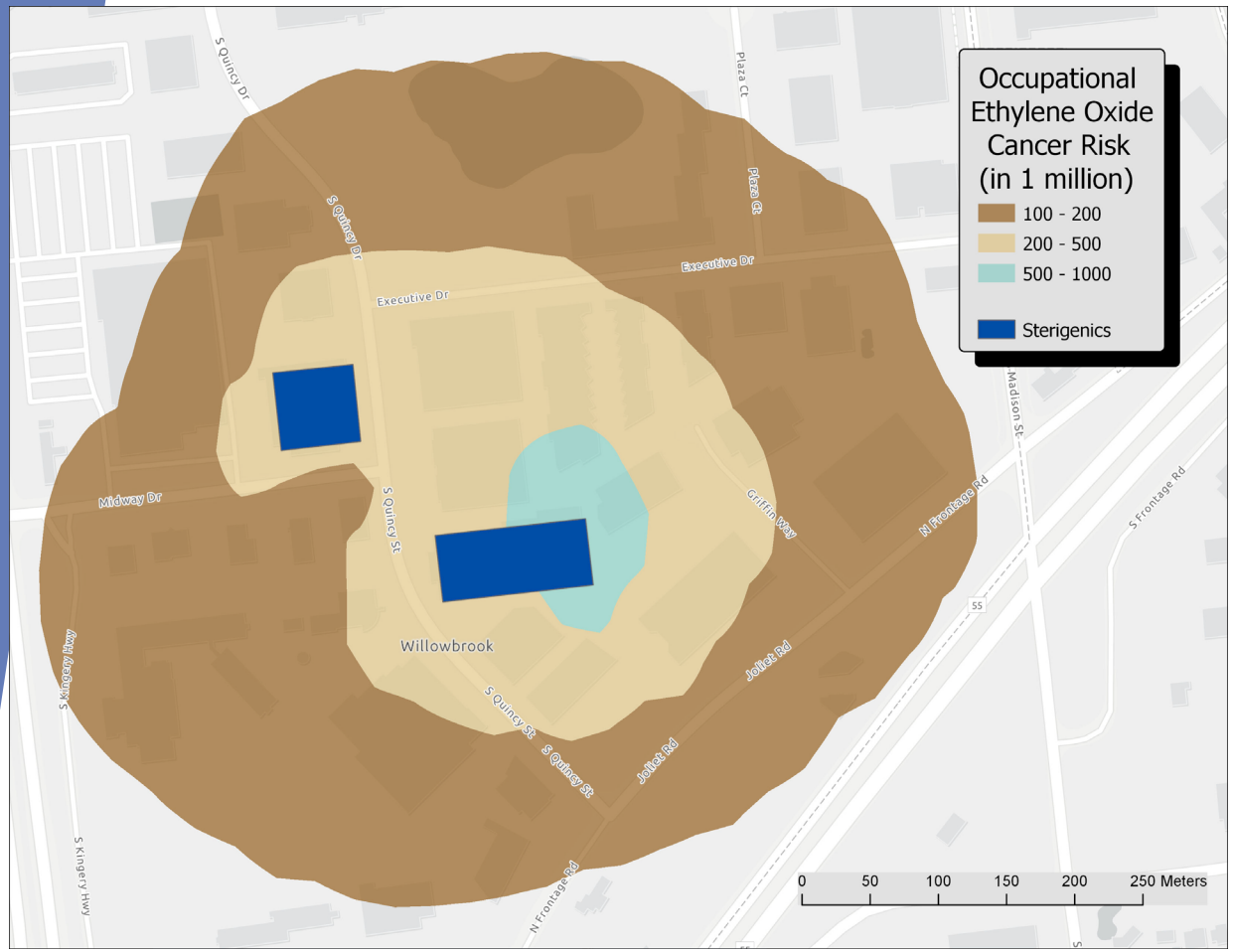

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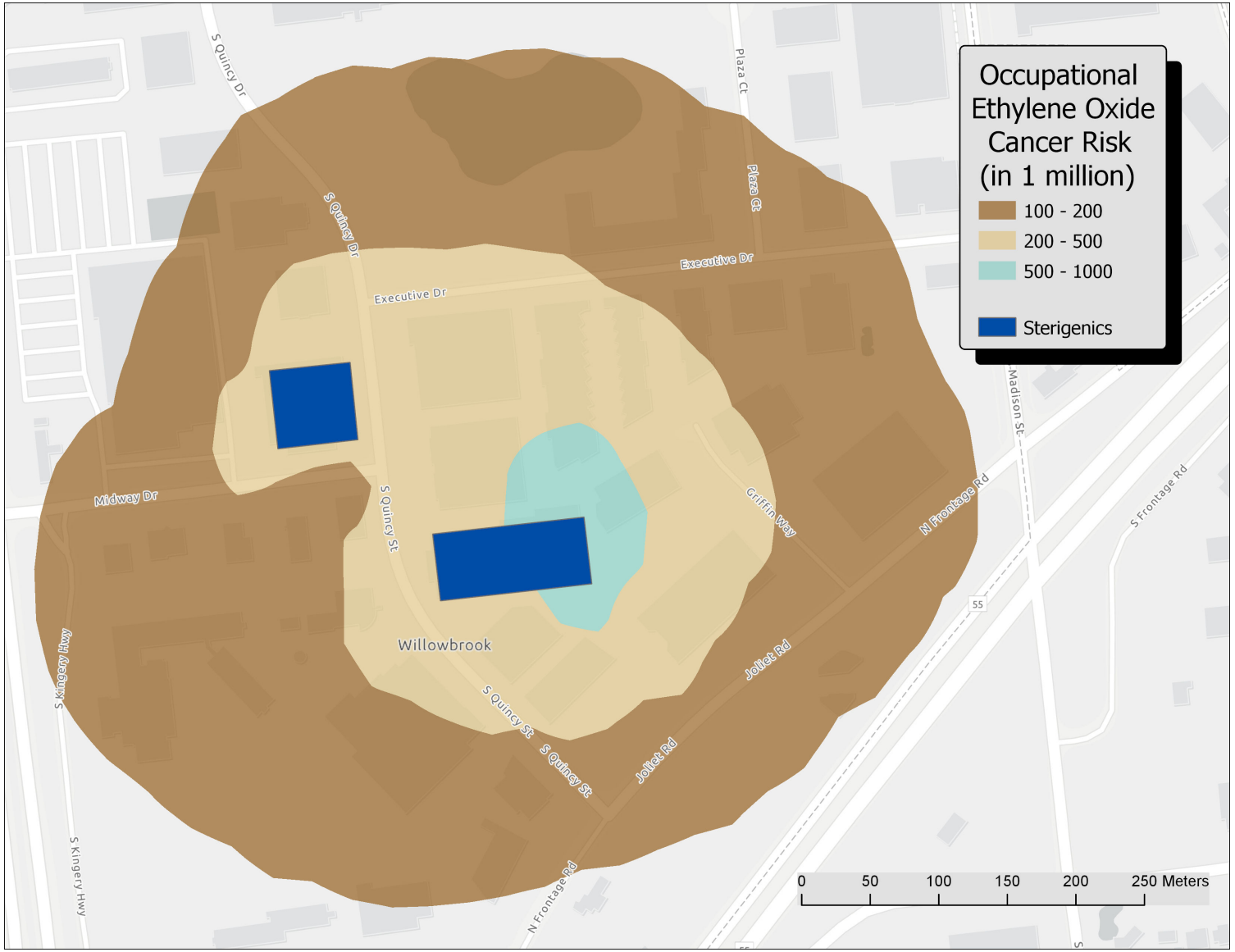

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Thank You