

Plant-Wide Odour Control Strategy

Presented to Humber Treatment Plant
Neighbourhood Liaison Committee

February 16, 2011

One Team. Infinite Solutions



Agenda

- Project Overview
- Odour Sampling
- Air Model Baseline Results
- Identified Odour Sources
- Treatment Strategies
 - Phase I
 - Phase II
- Air Model Results Summary



Project Overview

- Located on 130 Queensway
- Constructed in 1950's
- Several Upgrades/phased expansions since then
- Process Upgrades made to reduce odour
- Stantec conducting Process and Odour Upgrade Contract



Odour Sampling

- 3 Rounds of odour sampling completed
 - September 22-25, 2008
 - January 16, 2009
 - September 2-3, 2009
- Sampled 6 process areas of concern
 1. Inlet Sewer
 2. Headworks Facility
 3. North Grit Building
 4. North Primary Clarifiers
 5. South Primary Clarifiers
 6. Aeration



Aeration Sampling Location

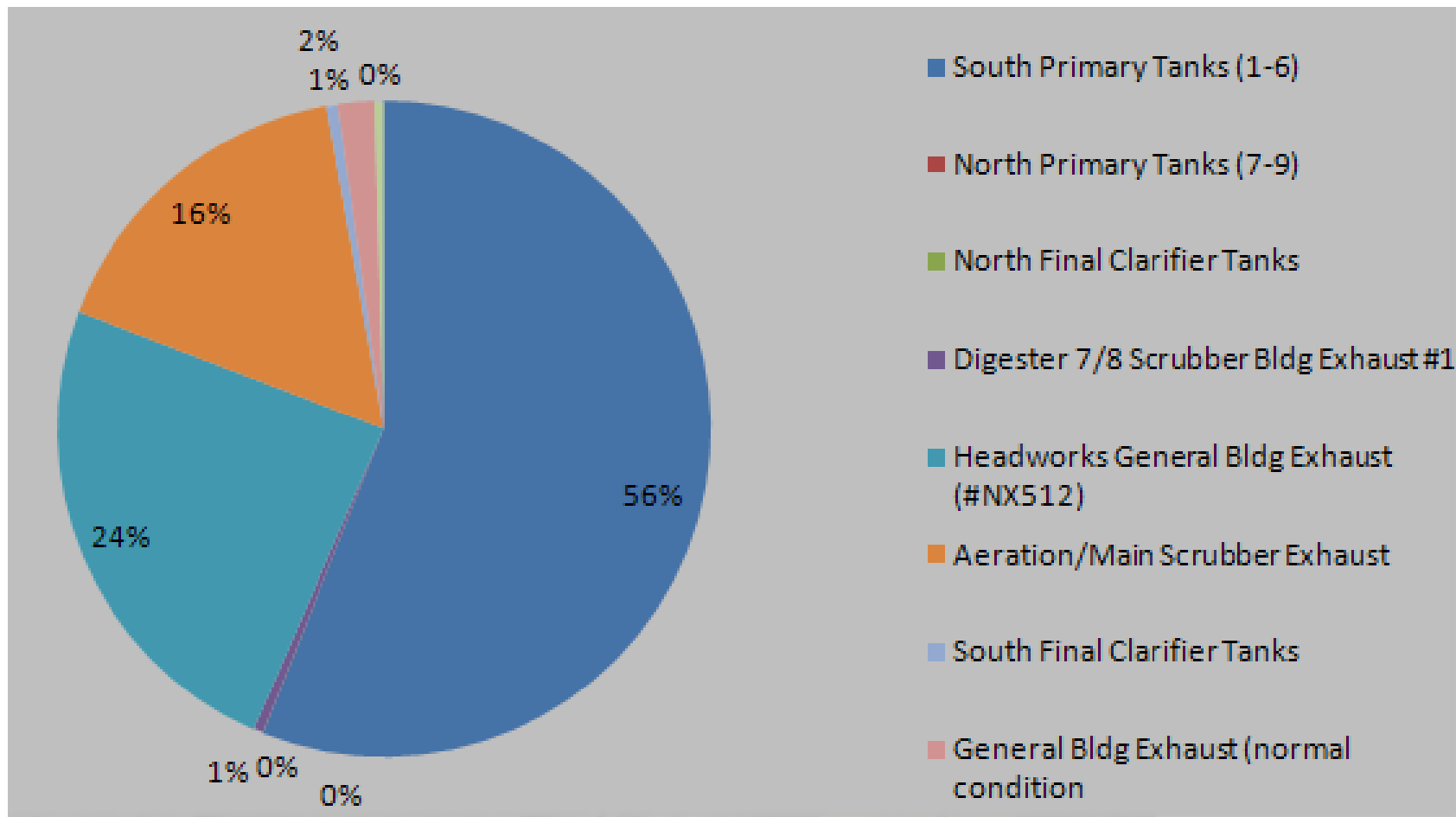
Air Model – Baseline Results



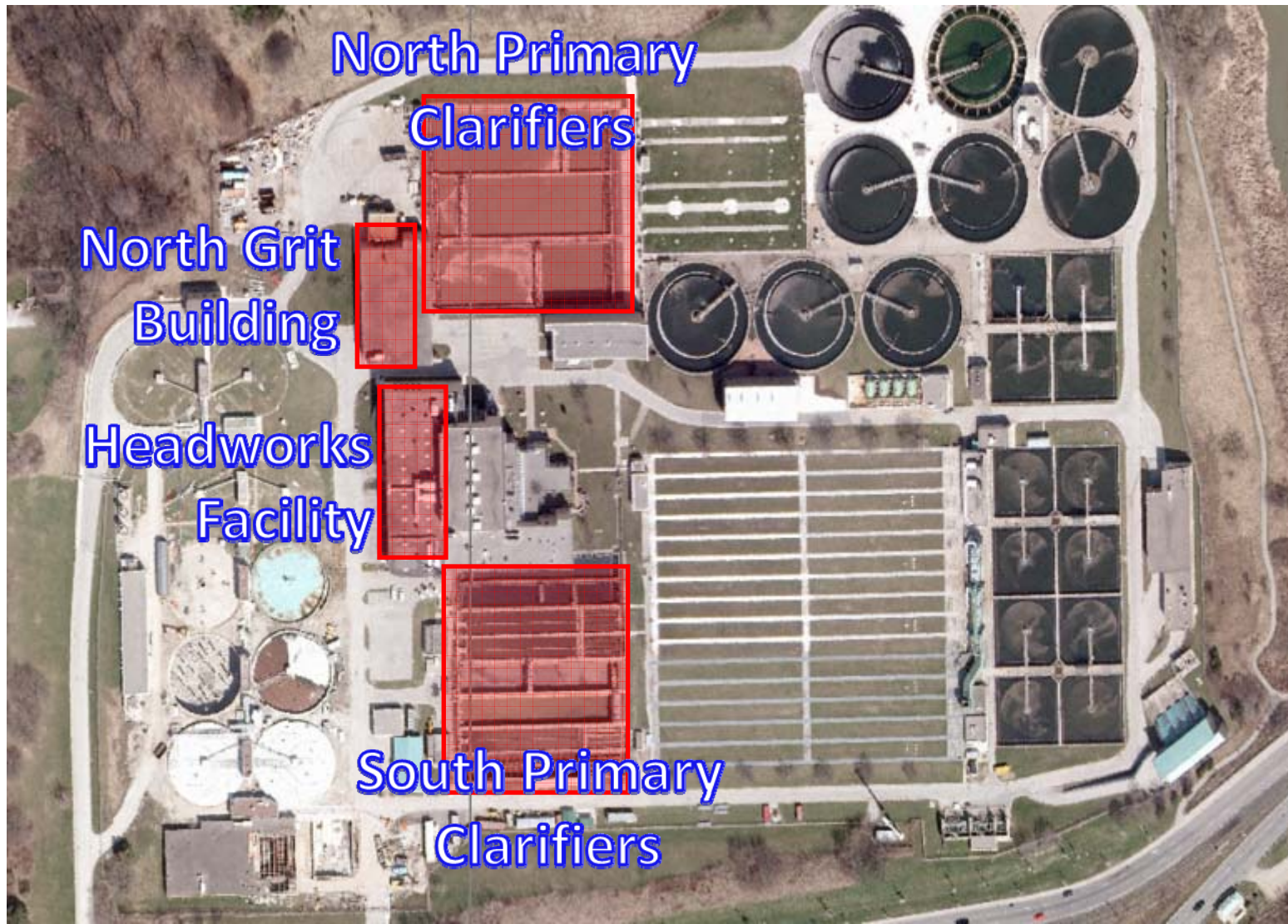


Air Model – Baseline Results

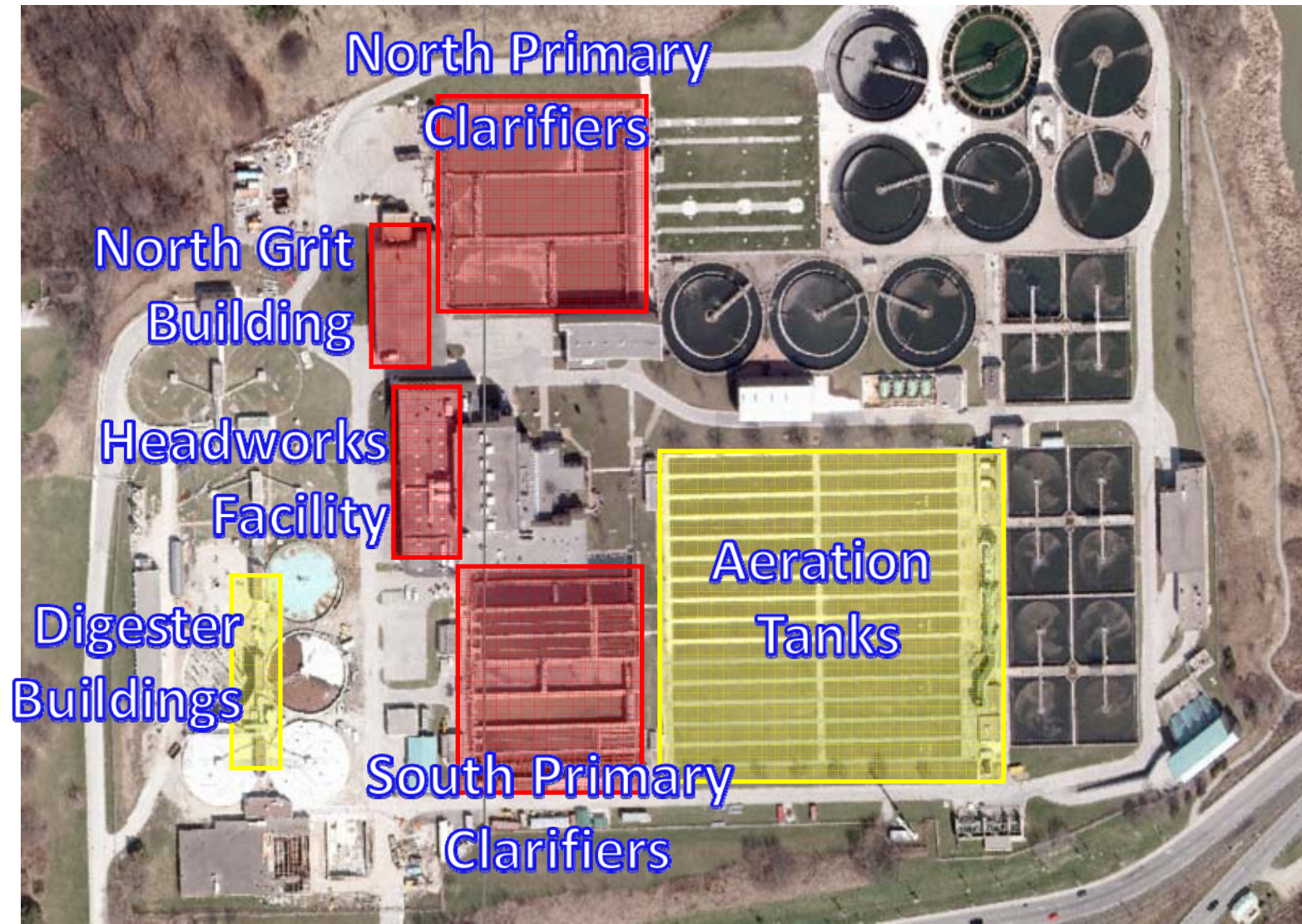
Odour distribution at most sensitive receptor



Identified Odour Sources – Phase I



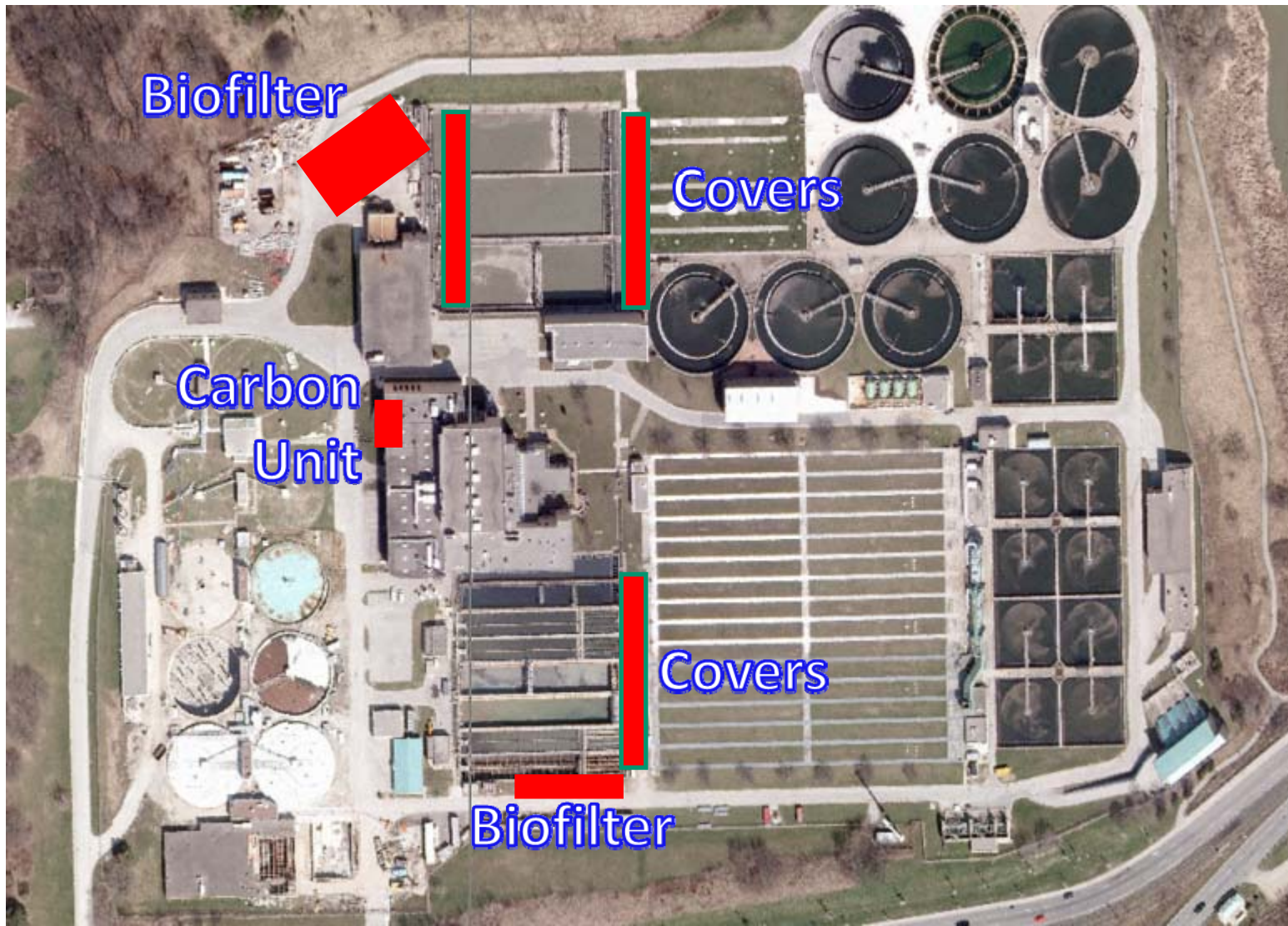
Identified Odour Sources – Phase II



Treatment Strategy – Phase I

- Underground Biofilter to treat:
 - Headworks Facility (screens, grit chambers, channels, and proposed truck bay)
 - North Grit Building (grit tanks and channels)
 - North Primary Clarifiers (influent and effluent channels)
- Above Ground Biofilter to treat:
 - South Primary Clarifiers (influent and effluent channels)
- Carbon Adsorber located adjacent to Headworks Facility to treat:
 - Screen Room in Headworks Facility

Treatment Strategy – Phase I



Treatment Strategy – Phase I



Biofilter



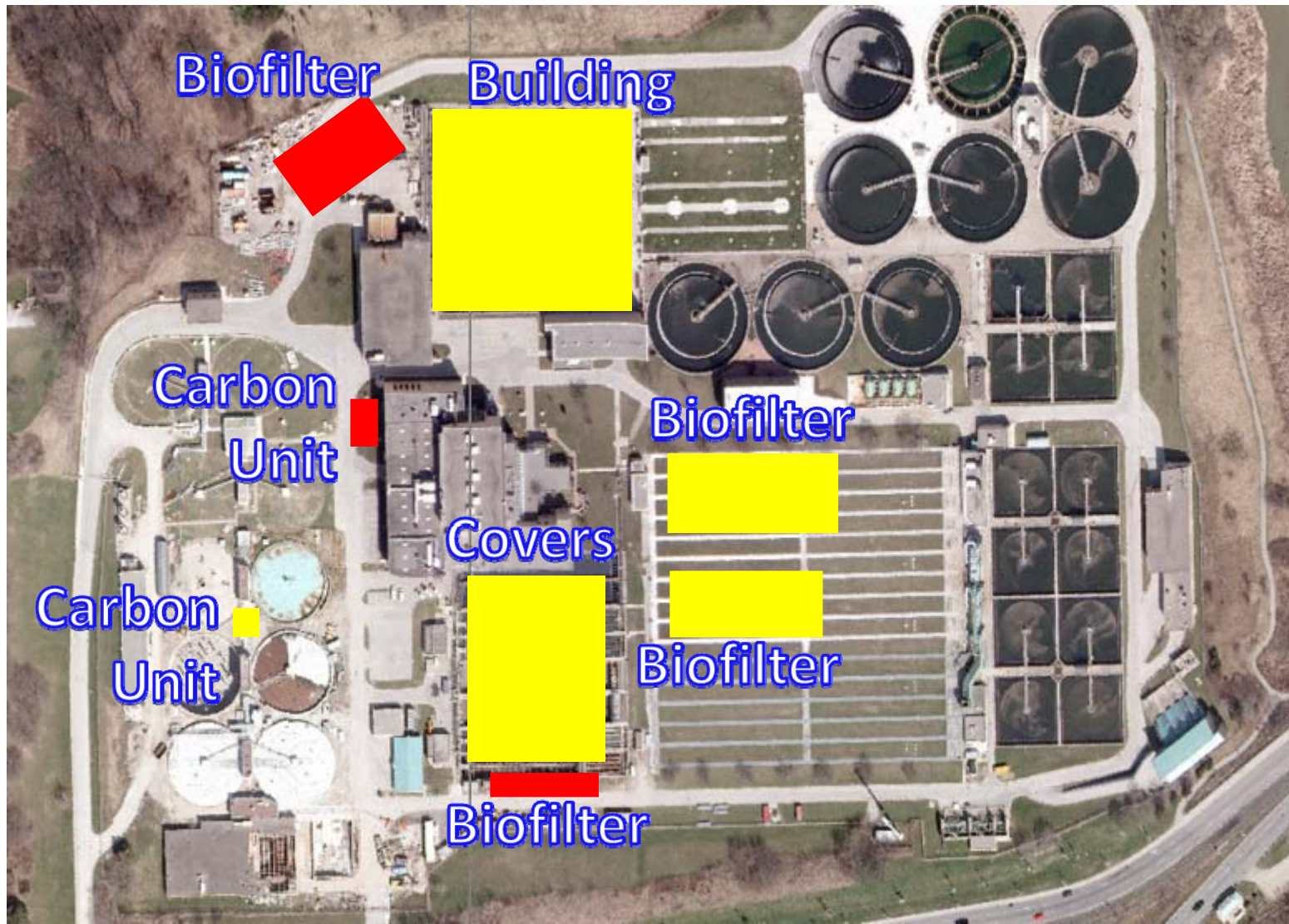
Carbon Unit

Treatment Strategy – Phase II

- Cover Phase I biofilter and exhaust with strobic fan
- Contain air from North and South Primary Clarifiers with a new building and covers and treat air with new biofilter
- Treat Aeration with new biofilter
 - Cover both new biofilters and exhaust with strobic fan
- Treat Digester Buildings with new carbon unit



Treatment Strategy – Phase II



Air Model – Summary of Results

At Most Sensitive Receptor

Odour Concentration (OU)		
Baseline	Phase I	Phase II
75	3.8	2.1

Phase I - \$9M, as part of a \$55M project

Phase II - \$59M

Questions??