



Site Plans

Corrosion Control Facility

Odour Control Facility

Development Services Committee
Town of Markham
June 14, 2011

Presentation Agenda

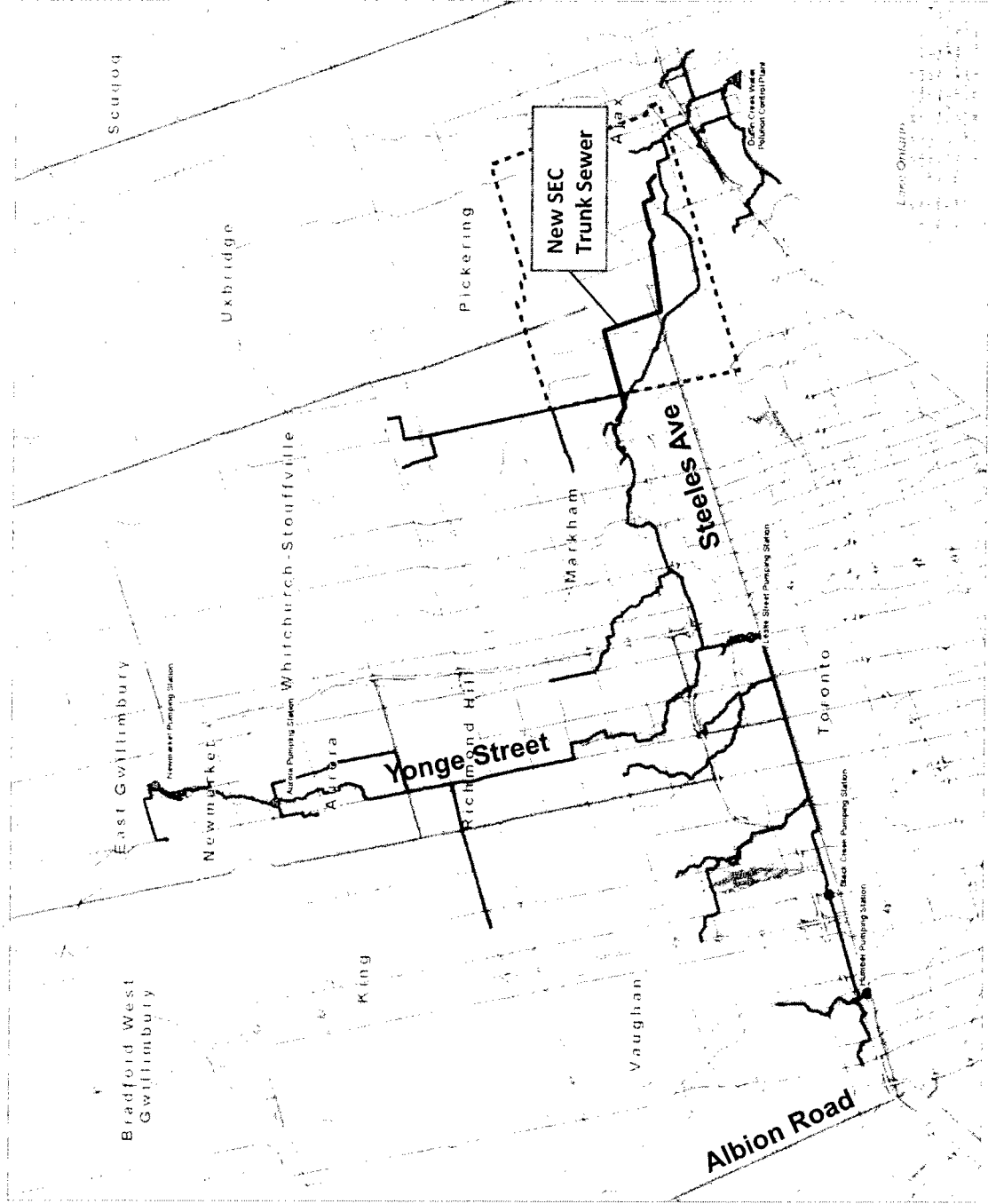


- Introduction/Background
 - Project Context
- New Southeast Collector Trunk Sewer
 - SEC Project Overview
 - Odour Control System
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- Discussion



York Region

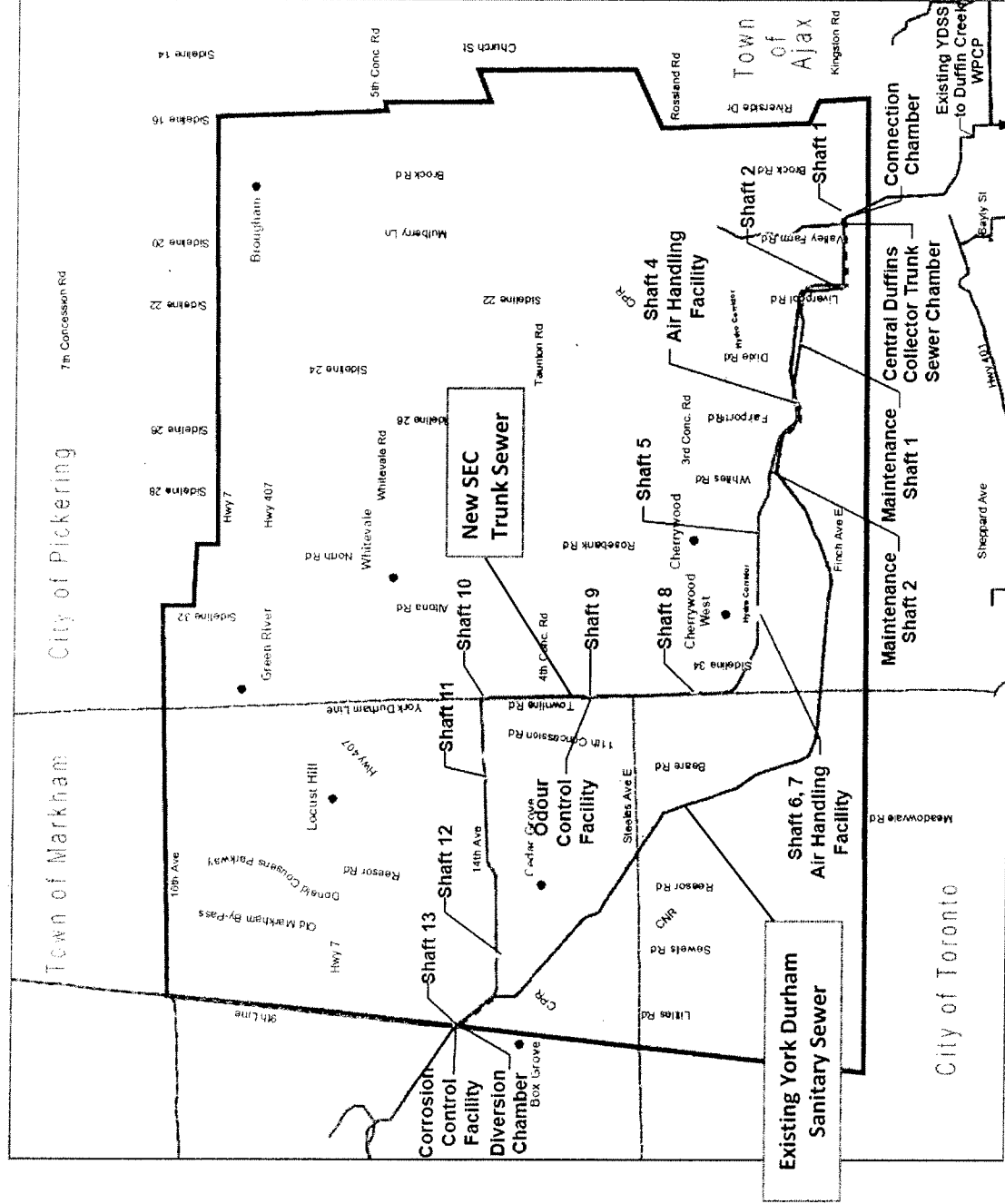
Project Context York Durham Sanitary Sewer





York Region

New Southeast Collector SEC Project Overview



New Southeast Collector SEC Project Overview



- New SEC Trunk sewer being constructed to accommodate future growth in York Region
- To service ~ 1.5 million residential & 780,000 employment population by 2031
- Will also allow for maintenance of existing trunk sewer
- 3 m dia. pipe designed to convey 14 m³/s peak flow
- Trunk sewer will extend over a distance of 15 km from community of Box Grove in Markham to the Finch Ave/Valley Farm area in Pickering

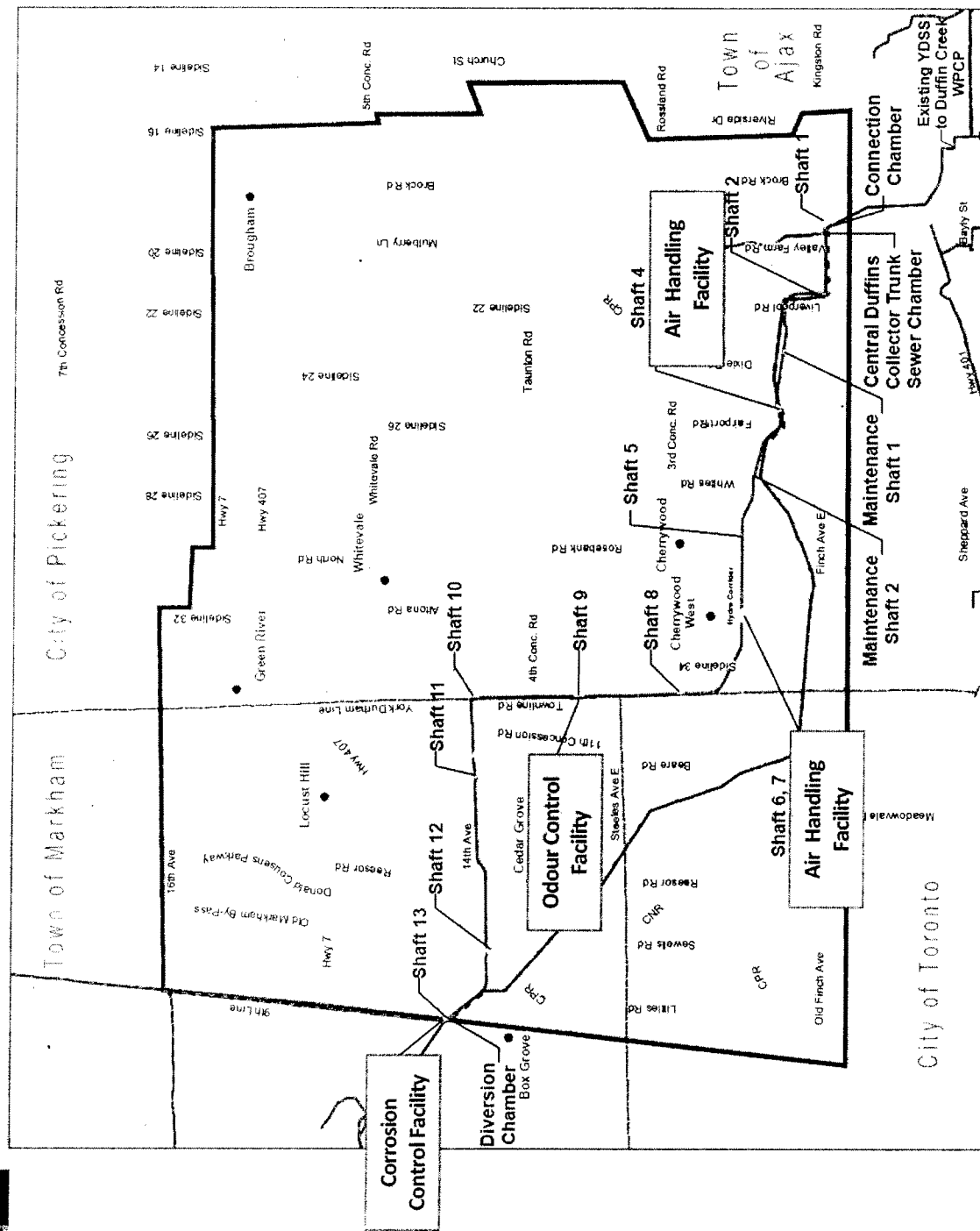
New Southeast Collector SEC Project Overview



Main Components of the SeC Trunk Sewer system are as follows:

- 17 Shaft locations – for construction and future operation of the system
- A new metering chamber at the connection with the Central Duffins Collector
- PHMS – pressure and hydrogen sulfide monitoring system
- Diversion Facility at Shaft 13 to enable flow management
- Connection chamber to connect to the existing YDSS sewer at intersection of Finch Ave & Valley Farm Rd
- Odour control system comprised of a Corrosion Control Facility (CCF), Odour Control Facility (OCF) and 2 Air Handling Facilities (AHFs)

Odour Control System



Odour Control System Treatment Facilities



- **Corrosion Control Facility** - located at the intersection of 9th Line and Rouge Bank Drive
 - Adds corrosion and odour controlling solution (diluted hydrogen peroxide) to sewer wastewater at Shaft 13
- Consists of 2 hydrogen peroxide storage tanks (45,000 L each; 30 day capacity), dosing assembly, fill station, and spill containment measures

Odour Control System Treatment Facilities



- **Odour control Facility** - located along west side of York Durham Line, south of 14th Avenue
- includes multiple air treatment stages for collecting and treating odour, consisting of:
 - Bioscrubber - Pre-conditioning and treatment
 - Enclosed Biofilter - Engineered media
 - Activated Carbon - Air polishing stage
- Back-up generator for power is provided in separate building

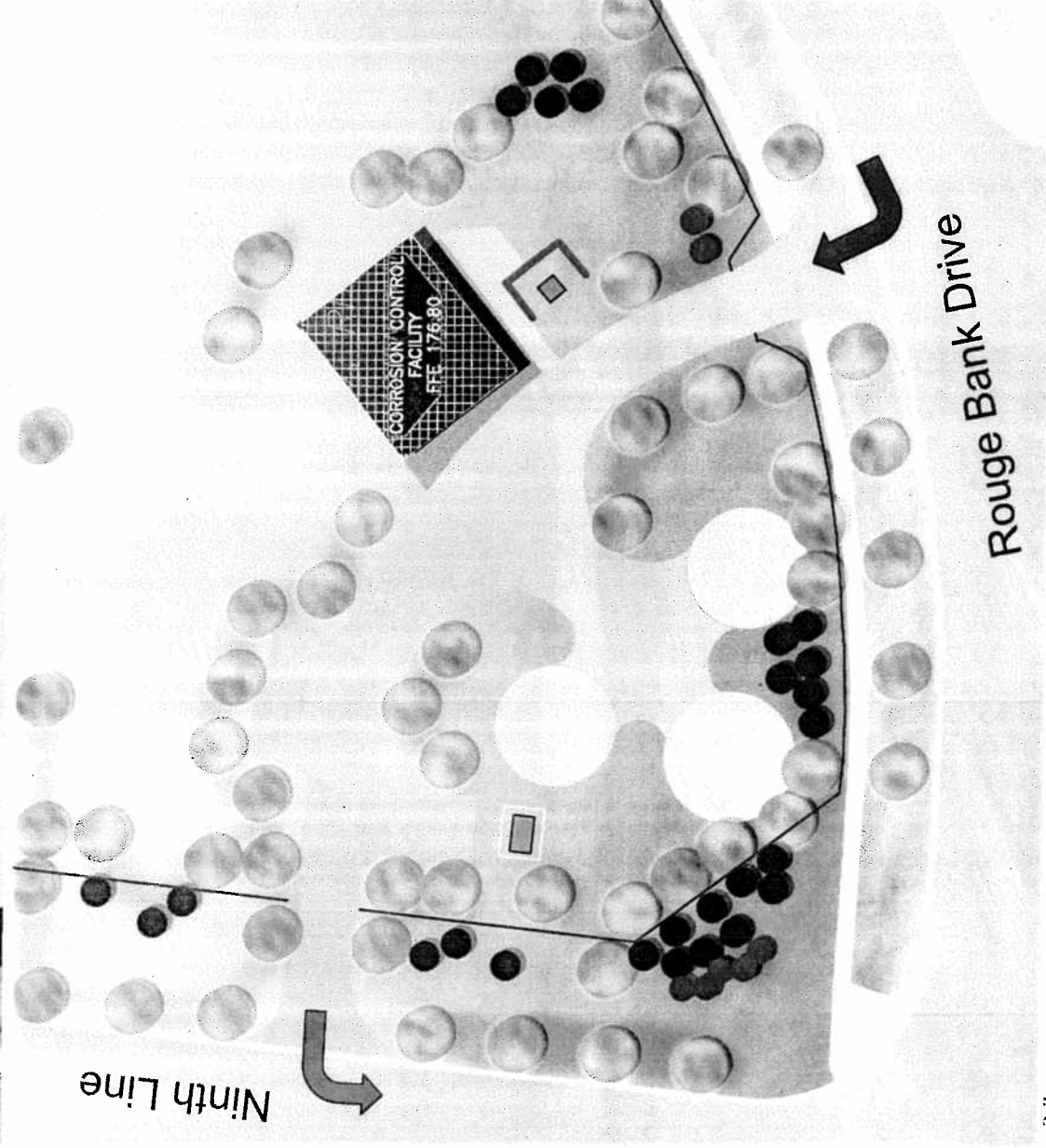
Odour Control System Air Handling

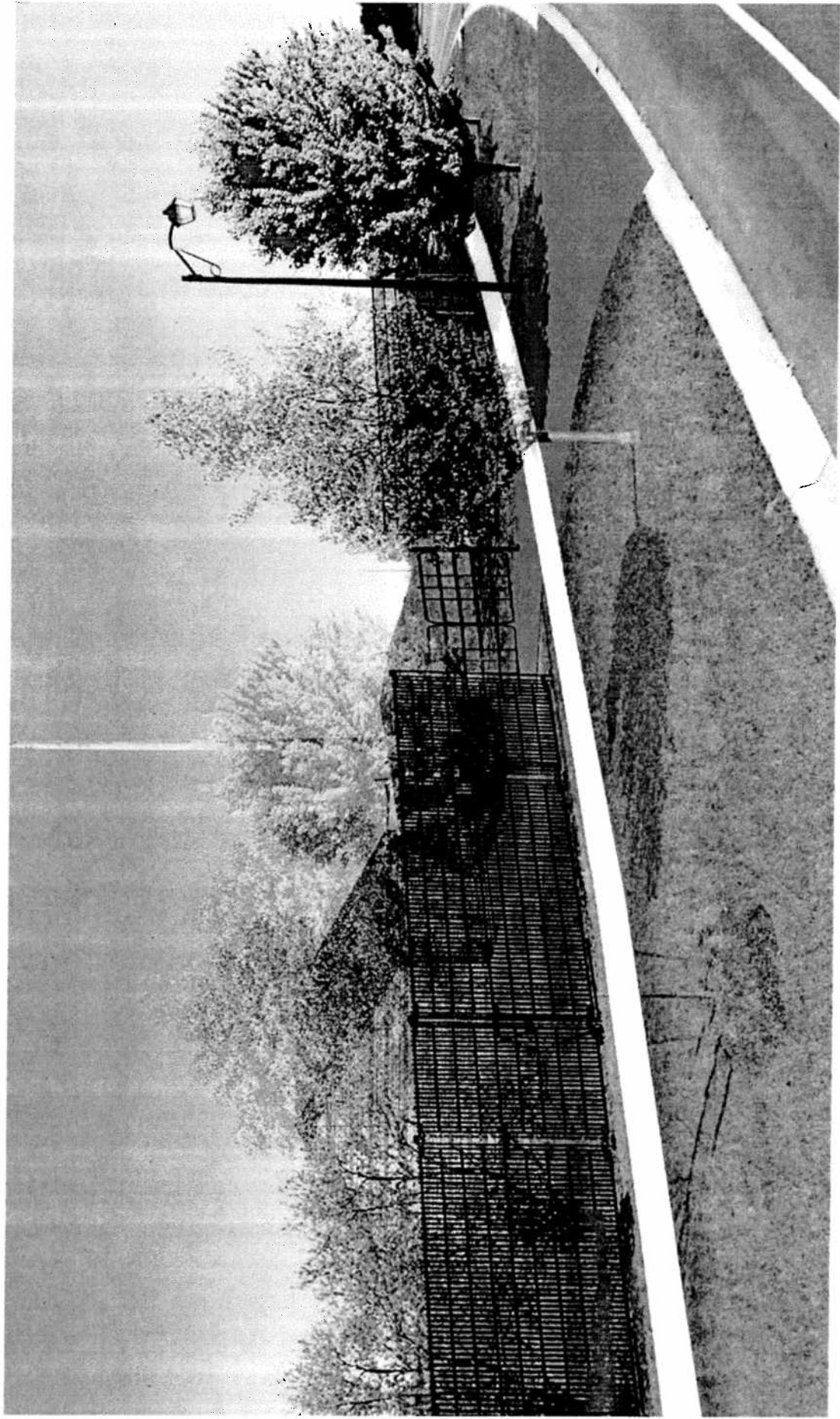


- Air fans are an essential element of the control system that will be used to:
 - Convey air to odour control facility for treatment
 - Maintain negative air pressure throughout entire trunk sewer
- Three sets of fans:
 - Fans at Shaft 4 AHF (Pickering) –to provide headspace ventilation from the connection chamber to Shaft 4
 - Fans at Shaft 6/7 AHF(Pickering) – to provide headspace ventilation from Shaft 4 to Shaft 6/7
 - Fans at Shaft 9 - to provide headspace ventilation from Shaft 13 to Shaft 9 and from Shaft 6/7 to Shaft 9

Corrosion Control Facility Site Plan

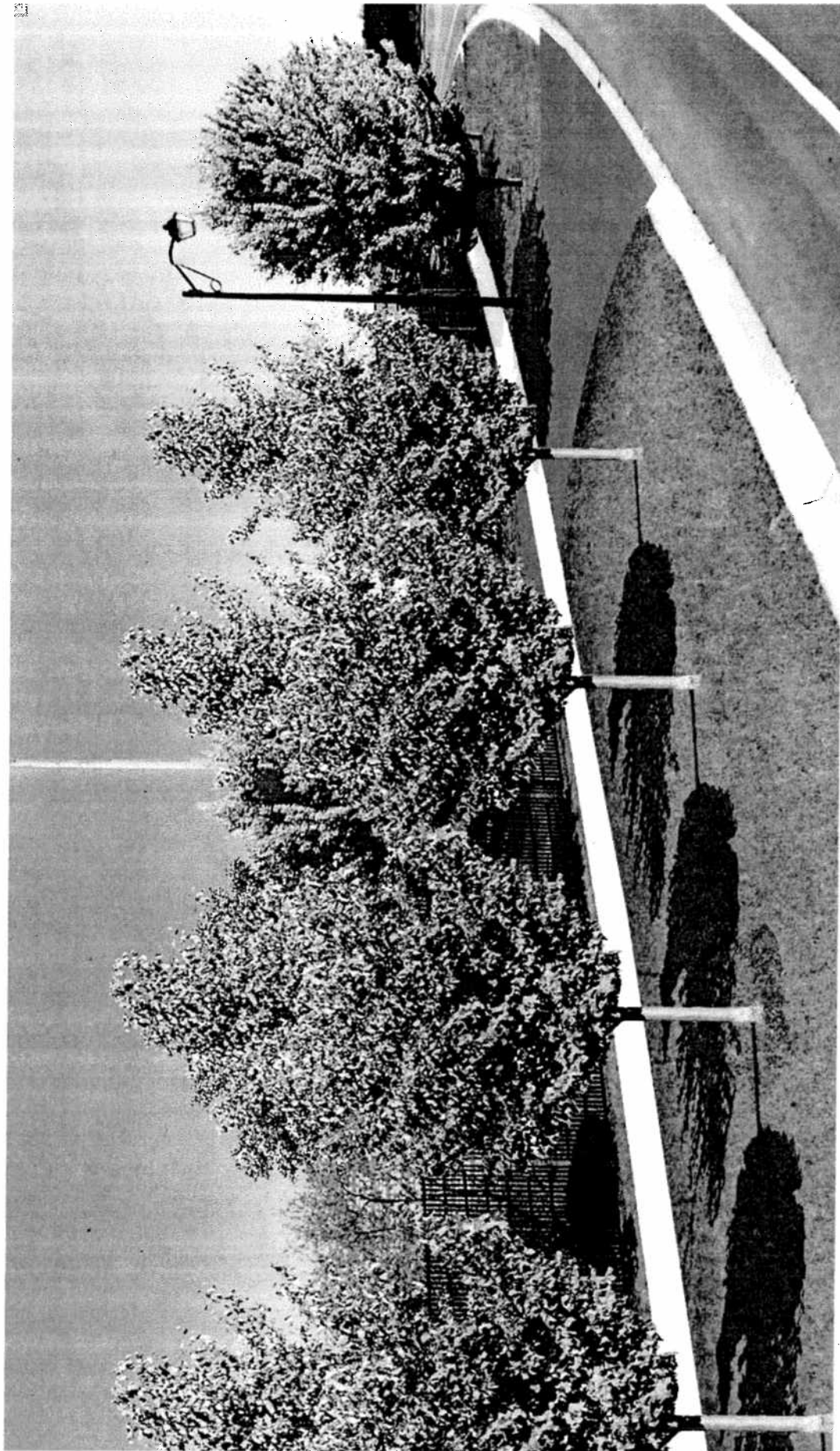
- Site area ~ 0.8 ha.
- Single building 13.35 m wide x 15.95 m long. Height of the facility is 8.43 m.
- Vehicles enter from westbound lane on Rouge Bank Drive (right turn), and exit via southbound lane on Ninth Line and then must turn onto eastbound lane of Rouge Bank Drive
- Fully automated site that will be monitored on a 24 hour – 7 day basis.
- Regular maintenance inspections on a weekly basis
- Site complies with all zoning and planning requirements



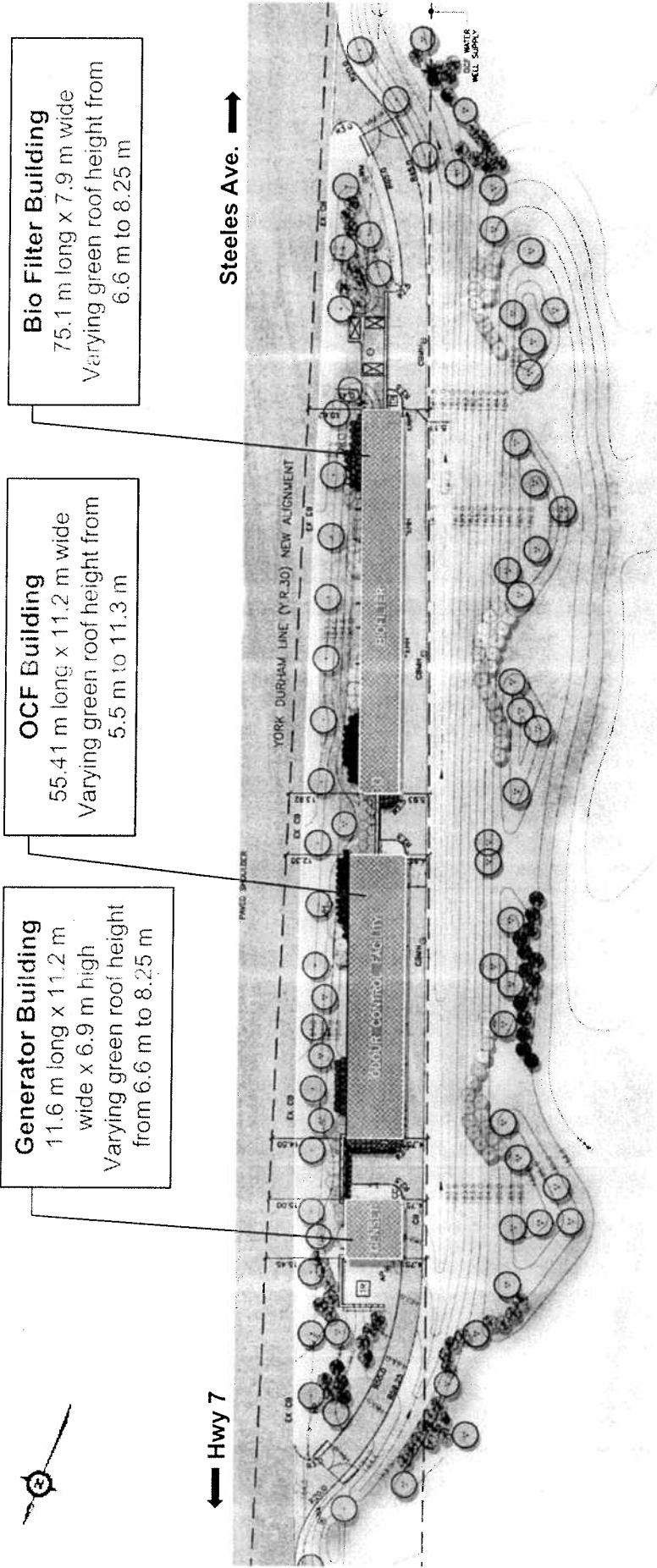


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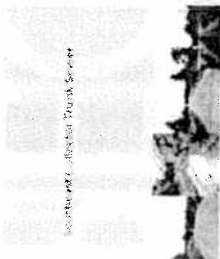
Corrosion Control Facility - View from Rouge Bank Road looking northeast



Odour Control Facility Site Plan



- 3 buildings with green roofs.
- Contained entirely within York Durham Line right-of-way
- Regular maintenance inspections on weekly basis
- Fully automated site that will be monitored on a 24 hour -7 day basis
- Site complies with all zoning and planning requirements



Source: York Region Parks & Recreation

York Region

Odour Control Facility - Looking northwest along York Durham Line



York Region

Odour Control Facility - Looking northwest along York Durham Line



Project Status Approvals & Permits



- Approval for the Individual Environmental Assessment
- March 31, 2010
- 3 Certificates of Approval (Air & Noise) - MOE for OCF
& AHF - February 8/March 10, 2011
- 3 Certificates of Approval (Sewage) - MOE includes
the CCF - March 16, 2011 (2 being finalized)



Project Status Approvals & Permits

Agency Approvals

- Toronto & Region Conservation • Town of Markham
- Ministry of Natural Resources • City of Pickering
- Department of Fisheries & Ocean • City of Toronto
- Ministry of Tourism and Culture • Trans Northern Pipeline
- Ministry of the Environment • Enbridge Pipelines Inc
- Ontario Realty Corporation • First Nations
- Hydro One Networks • Canadian Pacific Railway
- Region of Durham • Transport Canada
- Industry Canada • Canadian Wildlife Service



- Exemption to Noise By-law - to permit extended construction hours at Shaft 10 (working shaft) and at Shaft 13 (diversion chamber)
- Municipal Consent – for trunk sewer that will be located in Town of Markham right-of-ways
- Site Plan approval for the Corrosion Control and Odour Control Facilities
- Easements on Town of Markham lands that will contain the trunk sewer

Project Status Schedule



Project Schedule

• Tender Close	May 6, 2011
• Project Award	June 2011
• Construction Start	July 2011
• Project Completion	April 2015



Discussion