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IN THE MATTER OF THE ONTARIO HERITAGE ACT R.S.O. 1990, CHAPTER O.18 AND 222 BREMNER BOULEVARD CITY OF TORONTO, PROVINCE OF ONTARIO

NOTICE OF PASSING OF BY-LAW

To: Toronto Harbour Commission 60 Harbour Street Toronto, Ontario M5J 1B7 Attn: Gary F. Reid

> Marathon Realty Co. Ltd. 200 Wellington Street West Suite 400 Toronto, Ontario M5V 2C7 Attn: Ian Swanspon, Regional Vice President Development Ontario

Ontario Heritage Foundation 10 Adelaide Street East Toronto, Ontario M5C 1J3

Take notice that the Council of the Corporation of the City of Toronto has passed By-law No. 1996-0385 to designate 222 Bremner Boulevard (CPR John St. Roundhouse, Turntable, Sand and Coal Loader and Water Tower) as being of architectural and historical value or interest.

Dated at Toronto this 27th day of August, 1996.

Barbara G. Caplan City Clerk

No. 1996-0385. A BY-LAW

To designate the property at 222 Bremner Boulevard (CPR John Street Roundhouse, Turntable, Sand and Coal Loader and Water Tower) as being of architectural and historical interest.

(Passed August 12, 1996.)

WHEREAS by Clause 4 of Neighbourhoods Committee Report No. 12, adopted by Council at its meeting held on August 12, 1996, authority was granted to designate the property at 222 Bremner Boulevard (CPR John Street Roundhouse, Turntable, Sand and Coal Loader and Water Tower) as being of architectural and historical interest;

AND WHEREAS the Ontario Heritage Act authorizes the Council of a municipality to enact by-laws to designate real property, including all the buildings and structures thereon, to be of historical or architectural value or interest;

AND WHEREAS the Council of The Corporation of the City of Toronto has caused to be served upon the owners of the land and premises known as No. 222 Bremner Boulevard (CPR John Street Roundhouse, Turntable, Sand and Coal Loader and Water Tower) and upon the Ontario Heritage Foundation Notice of Intention to designate the property and has caused the Notice of Intention to be published in a newspaper having a general circulation in the municipality once for each of three consecutive weeks as required by the *Ontario Heritage Act*;

AND WHEREAS the reasons for designation are set out in Schedule "B" to this by-law;

AND WHEREAS no notice of objection to the proposed designation has been served upon the Clerk of the municipality;

THEREFORE the Council of The Corporation of the City of Toronto enacts as follows:

1. The property at 222 Bremner Boulevard (CPR John Street Roundhouse, Turntable, Sand and Coal Loader and Water Tower), more particularly described and shown on Schedule "A" to this by-law, is being designated as being of architectural and historical interest.

2. The City Solicitor is authorized to cause a copy of this by-law to be registered against the property described in Schedules "A" and "C" to this by-law in the proper Land Registry Office.

3. The City Clerk is authorized to cause a copy of this by-law to be served upon the owner of the property at 222 Bremner Boulevard (CPR John Street Roundhouse, Turntable, Sand and Coal Loader and Water Tower) and upon the Ontario Heritage Foundation and to cause notice of this by-law to be published in a newspaper having general circulation in the City of Toronto as required by the *Ontario Heritage Act*.

BARBARA HALL, Mayor. BARBARA G. CAPLAN City Clerk.

Council Chamber, Toronto, August 12, 1996. (L.S.)

SCHEDULE "A"

In the City of Toronto, in the Municipality of Metropolitan Toronto and Province of Ontario, being composed of part of:

FIRSTLY: (CPR John Street Roundhouse)

Parts of Blocks C and D and part of Lake Street all according to Plan 536E registered in the Land Registry Office for the Metropolitan Toronto Registry Division (No. 64), the said part of Lake Street as closed by City of Toronto By-law 10950 registered as Instrument 4725ES, designated as PARTS 1, 2 and 3 on a plan of survey deposited as 64R-13995.

SECONDLY: (Turntable)

Parts of Blocks C and D and part of Lake Street all according to Plan 536E registered in the Land Registry Office for the Metropolitan Toronto Registry Division (No. 64), the said part of Lake Street as closed by City of Toronto By-law 10950 registered as Instrument 4725ES, the boundaries of the land being described as follows:

Premising that the bearings hereinafter mentioned are grid and are referred to the Central Meridian 79 degrees and 30 minutes West Longitude through Zone 10 of the Ontario Co-ordinate System, NAD 27 (1966 Adjustment), then;

Commencing at a point, the location of which may be arrived at as follows;

Beginning at the easterly terminus of the northerly limit PART 3, on a plan of survey deposited as 64R-13995, having a bearing of North 72 degrees 13 minutes and 50 seconds West as shown on the said Plan 64R-13995;

Thence North 62 degrees 21 minutes and 20 second East 17.21 metres to the point of commencement;

Thence South 88 degrees 55 minutes and 30 seconds East 40.00 metres to a point;

Thence South 1 degree 4 minutes and 30 seconds West 40.00 metres;

Thence North 88 degrees 55 minutes and 30 seconds West 40.00 metres;

Thence North 1 degree 4 minutes and 30 seconds East 40.00 metres more or less to the point of commencement.

THIRDLY: (Sand and Coal Loader)

Part of Block C according to Plan 536E registered in the Land Registry Office for the Metropolitan Toronto Registry Division (No. 64), the boundaries of the land being described as follows:

Premising that the bearings hereinafter mentioned are grid and are referred to the Central Meridian 79 degrees and 30 minutes West Longitude through Zone 10 of the Ontario Co-ordinate System, NAD 27 (1966 Adjustment), then;

Commencing at a point, the location of which may be arrived at as follows;

Beginning at the westerly terminus of the northerly limit of PART 3, on a plan of survey deposited as 64R-13995, having a bearing of North 72 degrees 13 minutes and 50 seconds West as shown on the said Plan 64R-13995;

Thence North 60 degrees 07 minutes 40 seconds East 11.37 metres to the point of commencement;

Thence North 17 degrees 46 minutes and 10 seconds East 18.00 metres;

Thence South 72 degrees 13 minutes and 50 seconds East 22.00 metres;

Thence South 17 degrees 46 minutes and 10 seconds West 18.00 metres;

Thence North 72 degrees 13 minutes and 50 seconds West 22.00 metres more or less to the point of commencement.

FOURTHLY: (Water Tower)

Part of Block D according to Plan 536E registered in the Land Registry Office for the Metropolitan Toronto Registry Division (No. 64), the boundaries of the land being described as follows:

Premising that the bearings hereinafter mentioned are grid and are referred to the Central Meridian 79 degrees and 30 minutes West Longitude through Zone 10 of the Ontario Co-ordinate System, NAD 27 (1966 Adjustment), then;

Commencing at a point, the location of which may be arrived at as follows;

Beginning at the easterly terminus of the northerly limit of PART 3, on a plan of survey deposited as 64R-13995, having a bearing of North 72 degrees 23 minutes and 00 seconds East as shown on the said Plan 64R-13995;

Thence South 36 degrees 52 minutes 00 seconds East 19.31 metres to the point of commencement;

Thence North 74 degrees 23 minutes and 00 seconds East, 10.00 metres;

Thence South 15 degrees 37 minutes and 00 seconds East 10.00 metres;

Thence South 74 degrees 23 minutes and 00 seconds West 10.00 metres;

Thence North 15 degrees 37 minutes and 00 seconds West 10.00 metres more or less to the point of commencement.

The hereinbefore FIRSTLY, SECONDLY, THIRDLY AND FOURTHLY described lands being delineated by heavy outline on Plan SYE2822 dated August 8, 1996, as set out in Schedule "C".

SCHEDULE "B"

Heritage Property Report

Basic Building Data:

Address:	222 Bremner Boulevard (bounded by Rees Street, Lake Shore Boulevard West, and future alignments of Lower Simcoe Street and Bremner Boulevard)
Ward:	5
Current Name:	CPR John Street Roundhouse, Turntable, Sand and Coal Loader and Water Tower
Historical Name:	CPR John Street Roundhouse, Turntable, Coaling and Sand Plant and Water Tower
Construction Date:	1929-1931
Architect:	Canadian Pacific Railway Engineering Department; J. M. R. Fairbairn, Chief Engineer;

	 LtCol. Blair Ripley, District Engineers, Ontario District, CPR, supervising engineer; H. S. Bare, supervisor of building construction; V. A. G. Dey, Division Engineer, Toronto Terminals Division, Ontario District, supervisor of grading, track work and yard layout
Contractor/Builder:	Anglin-Norcross Limited, building contractor; Dominion Bridge Company, contractor, turntable
Additions/Alterations:	roundhouse: concrete block addition (store room), stall #1; interior concrete fire walls added; doors to stalls #1 and 30 replaced with permanent walls; some interior wooden posts replaced; chimney ("smoke jack") removed from stall #4; tracks removed from several stalls; some inspection pits filled in with concrete; 1994, roof and exterior walls repaired, doors and windows temporarily sealed, and 11 bays (stalls #1-11) temporarily removed
	turntable: 1994, steel bridge dismantled and stored; circular pit demolished and to be rebuilt
	sand and coal loader: hoist tower boarded up; unloading track, hopper, and coal chute gates removed; abutting sand plant removed; 1995, relocated on property
	water tower: 1994, temporarily dismantled during expansion of the Metro Toronto Convention Centre
Original Owner:	Canadian Pacific Railway Company
Original Use:	steam locomotive terminal
Current Use*:	vacant
Heritage Category:	Landmark - A
Recording Date:	June 1993; revised March 1996
Recorder:	HPD:KA

* this does not refer to permitted use(s) as defined in the Zoning By-law

Introduction:

The CPR John Street Roundhouse, turntable, sand and coal loader, and water tower are identified for architectural and historical reasons as important surviving reminders of steam technology and the role of rail transportation in the City of Toronto.

"Roundhouse" is the popular term for a locomotive terminal designed for the shelter, inspection, repair and shortterm storage of steam locomotives. Powered by the steam produced by water and fuel, steam locomotives were complex machines containing thousands of parts that required constant maintenance. Early roundhouses were dubbed "stables," and the spaces for locomotives called "stalls." Although roundhouses developed in various shapes, from squares (with through tracks) to octagons (with interior turntables), Canadian railway companies favoured the near-circular or fan-shaped variety. A series of radiating stalls formed a semi-circle, at the centre of which was a turntable designed to rotate an incoming locomotive toward an individual stall, or to turn it in the correct direction for departure. The circular shape of the roundhouse was practical in situations where land was limited, was easily expanded with the addition of individual bays, provided an abundance of natural light through openings in the front and back walls and the roof and, with its pie-shaped stalls, offered additional work space at the rear of the building (the direction in which the engines faced). The disadvantages of the form were the difficulty in evacuating such structures in the event of fire (with workers located at the rear of the building, away from the front entrance doors), the expense of the turntable, and the disruption of the work schedule if the turntable broke down.

A history of the development of the CPR John Street Roundhouse and its environs, and a description of the architectural features of the site, follows.

History:

1. Steam Railways in the City of Toronto:

In 1851, the construction of the first phase of the Ontario Simcoe and Huron Railway between Toronto and its northern hinterland marked the beginning of the railway era in the City of Toronto. With passenger and freight cars pulled by steam locomotives, railways transported goods and people expeditiously and relatively cheaply. Railways were not dependent on weather conditions, which rendered most roads impassable. They provided year-round transportation, overcoming the limits of water travel and the closing of the harbour during a significant portion of the year. The railway era offered Toronto opportunities for economic renewal, and commercial and industrial development.

2. Development of the Railway Lands:

While the City of Toronto welcomed the appearance of the first railway companies and the business they offered, City officials initially hoped to restrict the rail lines to the undeveloped area east of the urban core, thereby controlling pollution and disruptions to vehicular and pedestrian traffic. Instead, the Ontario Simcoe and Huron Railway established its passenger terminal at Front and Bay Streets without the City's permission, and extended its tracks westward across Garrison Common, the former military reserve that was intended for parkland. When the Grand Trunk Railway arrived from Montreal in 1855, the City bowed to the company's demands for access to the harbour and granted a right-of-way along the Esplanade, the strip of waterfront land east of Yonge Street which had been set aside for public use.

Over the next fifty years, the development of Toronto's waterfront would be dominated by competing railway companies. Initially, rail-to-water links were emphasized, taking advantage of Toronto's position as a major port. Individual companies ran tracks to wharves on the lake shore, and established freight and passenger facilities, but not full fledged rail yards, in the area between John Street and Fort York where land was relatively inexpensive. Over time, competition forced railway companies to amalgamate, share facilities (the first Union Station opened in 1858 and was replaced by the second in 1873), develop interconnected rail-to-rail systems, and offer track rights to one another.

By 1900, the Grand Trunk Railway (later the Canadian National Railway Company) and the Canadian Pacific Railway emerged as the chief competitors for the Toronto market, each establishing rail yards along the city's waterfront. In 1906, with the encouragement of the City of Toronto, the two companies incorporated the Toronto Terminals Railway Company to develop and operate a new (third) Union Station. The new company acquired the existing tracks of the Canadian Pacific and Grand Trunk Railways between the Don River and Bathurst Street. In the 1920s, the Toronto Terminals Railway embarked on an ambitious program of grade separation to establish a more efficient rail system, as well as to address the barrier to the waterfront created by the tangle of existing tracks and level crossings. With the cooperation of the recently formed Toronto Harbour Commissioners, land filling raised the existing railway lands 17 feet (five metres), and extended the property across parts of the harbour. The tracks were elevated and road subways constructed for vehicular and pedestrian access to the lake. A "High Line," designed to carry freight traffic, skirted the edge of the railway lands, south of the passenger tracks serving Union Station (its opening was delayed until 1927, when the tracks were connected). With these improvements in place, the Canadian Pacific Railway and the Canadian National Railway constructed new coach yards and

locomotive terminals south and west of Union Station. These facilities, built over the companies' existing rail yards, were the largest in Canada.

3. The Canadian Pacific Railway John Street Yard and Roundhouse:

With the redevelopment of the railway lands in the 1920s, the Canadian Pacific Railway planned new yards for the repair and storage of locomotives and passenger cars. The company's freight yards remained outside the downtown area. The new facility, located south of Front Street West at the foot of John Street, encompassed nearly thirty structures with specialized tracks. The new yard was built on reclaimed land and, through the addition of nearly one million cubic metres of fill, elevated 17 feet (five metres) to the level of the High Line which crossed the south edge of the site. The property included the pre-existing CPR Roundhouse, built in 1893 and enlarged in 1908 and 1918, which was scheduled for replacement by a larger and technologically advanced facility.

The construction of the present John Street Roundhouse began in 1929 according to the designs of the Canadian Pacific Railway Engineering Department under the direction of Chief Engineer, J. M. R. Fairbairn. The structure was built by the Montreal firm of Anglin-Norcross, contractors for the Canadian National Railway's Spadina Roundhouse (directly west and under the present SkyDome) two years earlier. In the first phase of construction, the old roundhouse remained in use while the first 28 stalls of the new facility were completed beside and (with land filling) above it. In 1930-1931, the old roundhouse was torn down and the remaining four stalls added to the new structure. The facility, nearly three-quarters round, was large by Canadian standards. The turntable, designed by the Dominion Bridge Company of Montreal, featured a three-point or rim design powered by two compressed air engines. This type of turntable, first introduced in 1912, took the weight of the structure and its load in the centre and at either end, thereby balancing the load and preventing the tipping experienced with earlier turntables (where the weight was taken at the centre only, leaving the ends to swing free). The turntable was 120 feet long to accommodate the largest locomotive with ease, and contained four tracks.

The John Street Roundhouse was the first in Canada to employ a unique clean air and energy conservation system, called the "direct steam process." The facility opened as one of only seven in North America (the others were in the United States) to utilize this new technology, using equipment designed by the Railway Engineering Company of Chicago. The system improved locomotive maintenance and fuel consumption, provided better working conditions through smoke abatement, and extended the life of the roundhouse. The process, which relied on a mixture of steam and water, sped up engine turnaround times, reducing the cycle for firing up locomotives from over an hour to mere minutes.

Using this system, before entering the roundhouse, a locomotive's fire box was emptied and a layer of fresh coal laid on its grate. The steam remaining in the boiler propelled the locomotive onto the turntable and into an individual stall. Once inside, the boiler was connected to a steam line. A mixture of water and steam kept the boiler at a constant reduced pressure, which was increased to an operating level when repairs were finished. The locomotive was then pushed onto the turntable and rotated to a track adjoining a "firing-up house" where the coal, by now thoroughly dry, was ignited with oil. The John Street Yard was the first in Canada to introduce portable oil torches for the firing-up of locomotives.

Prior to the development of the direct steam process, a locomotive either retained its fire while in the roundhouse, a potentially dangerous procedure which polluted the facility with smoky coal, or eliminated it completely, involving a lengthy firing-up process when repairs were finished. At the John Street facility, the first four stalls (numbered from the east end of the structure) were furnished with chimneys, or "smoke jacks," for those locomotives brought into the roundhouse with their fires for short turnarounds.

An integral component of the roundhouse was the machine shop, attached to the south wall of the building behind stall #25. The shop contained lathes and drills, boiler tank and boiler washer room, compressor room, fan room, blacksmith shop, and workers' facilities. Steam for the direct steam process was supplied from the generating plant installed by the Toronto Terminals Railway at York Street and Lake Shore Boulevard (now demolished), which also provided steam heat to Union Station, the Royal York Hotel and (afterward) the CNR Spadina Yard. Electricity for the facility was purchased from Toronto Hydro and fed to panels and Ingersoll-Rand compressor units. Pipes buried beneath the yard drew water directly from Lake Ontario for the cleaning of locomotive boilers. The City of Toronto provided water for fire hydrants and drinking.

Water for the John Street Yard was housed in an elevated tank south of the roundhouse with a 60,000 gallon capacity. The water tower provided water to a series of stand pipes placed throughout the yard. A sand and coal loader was located to the east. Incoming fuel was dumped into a hopper, electronically raised by a bucket conveyor, and stored in an elevated concrete silo supplied with chutes to funnel coal into the tenders of locomotives. The sand plant dispensed dry sand to locomotives for increased traction on the rails. The latter features were in place by December, 1929, during the initial construction phase of the John Street Yard.

The John Street Yard contained 25 other components, including a cinder plant (which recycled the hot cinders removed from locomotives' fire boxes), two firing-up houses, locomotive and passenger car stores, passenger car repair shop, car washing building and deck, and ice house. A loop track was installed to turn trains without shunting or using the turntable. During the peak years of the operation prior to World War II, the facility employed 150 workers ranging from skilled tradesmen (machinists, boilermakers, blacksmiths, carpenters, electricians and airbrakemen) to apprentices and semi-skilled labour.

With the decline in passenger service after the Second World War, the passenger car yards were converted into freight repair shops. During this period, the roundhouse was modified to service diesel-fired steam engines, followed by diesel engines, resulting in the removal of the locomotive servicing equipment used for the direct steam process. Obsolete buildings and structures were removed from the site in the 1960s and 1970s. The use of this section of the railway lands for transportation purposes alone changed with the construction of the CN Tower (opened 1977) on the north boundary of the site. The last locomotive was serviced in the roundhouse in 1982, and the building was closed in August, 1986.

In 1995, as part of the expansion of the Metro Toronto Convention Centre, the sand and coal loader was relocated on the property. The water tower, dismantled during the expansion project, will be re-erected on the property, as will the turntable and the first 11 bays (stalls #1-11) of the roundhouse.

Architecture:

Roundhouse and Turntable:

The John Street Roundhouse is constructed of concrete, brick and wood on a concrete foundation supported on piles sunk to bedrock. The structure features post-and-beam construction with brick exterior walls with parapets on the end bays, interior brick fire walls, and concrete floors. The three-quarter-round circular plan rises a single extended storey and opens to the northeast. 32 stalls are numbered from east to west (the first eleven stalls, dismantled during the expansion of the Metro Toronto Convention Centre, will be reerected). 23 of the stalls are 120 feet in length (36.6 metres), and the central nine are 130 feet (19.6 metres). The stalls are entered through double wooden doors, opening in both directions, in the front (east) wall (the doors to stalls # 1 and 30 currently are replaced with permanent walls). The rear (south) wall is nearly completely glazed with large multi-pane windows. Wooden posts of Douglas fir run the length of each stall to support the sloped wooden roof. The roof originally contained four chimneys, or smoke jacks, and was clad with tar and gravel (the roof was partially replaced in 1994 as part of the stabilization of the structure). A fully glazed clerestory, or monitor, rises above the main roof. The clerestory, supported by the original interior brick fire walls (the concrete fire walls are later additions) rises at a slight angle on the south side. On the interior, the clerestory is flanked by wooden catwalks, which run the length of the structure and are reached by ladders attached to the firewalls. The catwalks, designed to carry steam pipes associated with the direct steam process, provide access to the roof. On the floor below, each stall contains a track set flush with the floor level (some tracks have been removed). Many stalls retain inspection pits, which are placed between the rails, extend two to three feet in depth, and slant toward the rear wall for drainage. On the north side of the roundhouse, an exterior turntable with a steel bridge structure over a circular concrete pit was removed during the expansion of the Metro Toronto Convention Centre. The bridge, measuring 120 feet (36.6 metres) in length, with a three-point or rim design and four tracks, was dismantled and stored, while the pit was demolished and will be rebuilt.

The machine shop annex is attached to the south side of the roundhouse. The annex measures 84 by 178 feet (25.6 by 54.3 metres) and features a near rectangular plan. The structure is built of concrete, steel and brick, with steel posts supporting the roof. Its north wall contains sliding doors providing access to stall #25 of the roundhouse, while the south elevation displays oversized windows.

Sand and Coal Loader and Water Tank:

The sand and coal loader consists of two circular silos, built of reinforced concrete and with a capacity in excess of 300 tons, with a brick hoist tower. The water tower, designed to contain 60,000 gallons of water, has a steel tank with four steel legs resting on a concrete base. During the expansion of the Metro Toronto Convention Centre, the sand and coal loader was relocated on the site. The water tower was dismantled and will be reerected following the completion of the project.

Context:

The John Street Roundhouse, turntable, sand and coal loader and water tower were built on the property now located in the eastern portion of the Railway Lands, on a site defined by Rees Street (west), Lake Shore Boulevard West (south), and the future alignments of Lower Simcoe Street (east) and Bremner Boulevard (north). The roundhouse and its adjuncts form part of a highly visible enclave of architectural landmarks: to the north, the CN Tower opened in 1977 as the tallest freestanding structure in the world; directly west, SkyDome opened in 1990 as the world's first multi-purpose stadium with a retractable roof. The CPR John Street Roundhouse, turntable, sand and coal loader and water tower are integral reminders of the continuing evolution of the railway lands from transportation purposes to mixed uses during the late 19th and the 20th centuries.

Summary:

The property at 222 Bremner Boulevard is identified for architectural and historical reasons. In this location, the roundhouse (with machine shop), turntable, sand and coal loader and water tower, the surviving core components of the John Street Yard, were developed by the Canadian Pacific Railway Company in 1929-1931. Opening as the largest railway complex in Canada, the facility was the first outside the United States to use the innovative "direct steam" process for servicing locomotives. The complex operated for over half a century, continuing after the conversion from steam to diesel.

The John Street Roundhouse is significant as one of the last of its type in Canada. The roundhouse, turntable, sand and coal loader and water tower have been recognized by the Historic Sites and Monuments Board of Canada as important examples of roundhouse technology built during "the era of big power." The complex survives as important evidence of the historical development of Toronto's Railway Lands and the role of the railway in the economic and social evolution of Toronto and Canada.

Sources Consulted:

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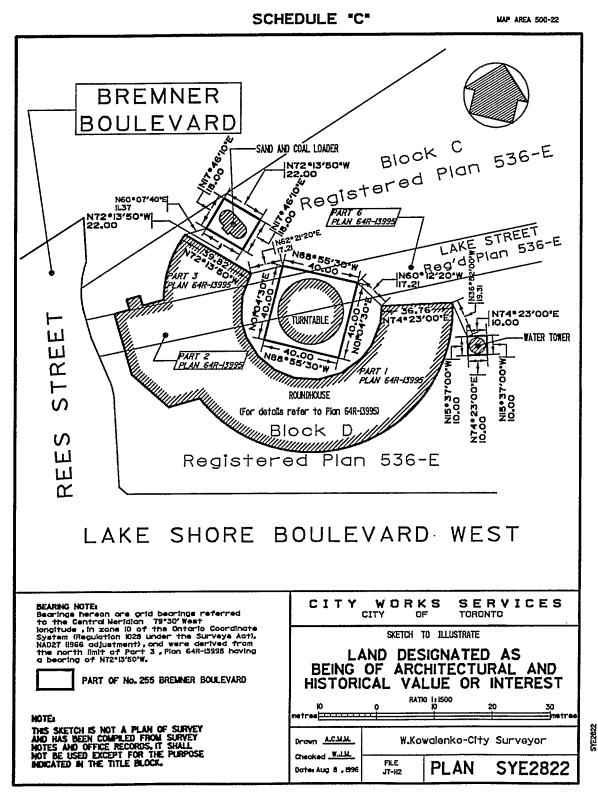
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1996 CITY OF TORONTO BY-LAWS No. 1996-0385



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