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Item No. 15.1.6
Halifax Regional Council
November 28, 2023

TO: Mayor Savage and Members of Halifax Regional Council

SUBMITTED BY: Original Signed

Cathie O'Toole, Chief Administrative Officer

DATE: October 24, 2023

SUBJECT: **2023-01495: Amendments to the Regional Centre Secondary Municipal Planning Strategy and Land Use By-law to Implement the Halifax Grain Elevator Land Use Risk Assessment Study Recommendations**

ORIGIN

Policy ED-5 of the Regional Centre Secondary Municipality Planning Strategy:

"Policy ED-5

The Municipality may partner with the Halifax Port Authority to carry out a study that assesses public safety risks associated with the Halifax Grain Elevator and its proximity to existing and future residential uses."

LEGISLATIVE AUTHORITY

Halifax Regional Municipality Charter (HRM Charter), Part VII, Planning and Development

RECOMMENDATION

It is recommended that Halifax Regional Council direct the Chief Administrative Officer to:

1. Initiate a process to amend the Regional Centre Secondary Municipal Planning Strategy and Regional Centre Land Use By-law to implement the land use and built form guidelines recommendations of the *Halifax Grain Elevator Land Use Risk Assessment Study*, consistent with the review items outlined in the Discussion section of this report;
2. Consider discharging existing development agreements as necessary to implement the recommendations of the *Halifax Grain Elevator Land Use Risk Assessment Study*; and
3. Follow the public participation program as outlined in the Community Engagement section of this report.

BACKGROUND

The Halifax Grain Elevator (HGE) is located on federal lands in the South End of Halifax managed by the Halifax Port Authority (HPA) and has been in use since 1924 (see Map 1 and Map 2). The HGE is operated by a private company, Halifax Grain Elevator Limited, which leases the facility and associated land from the HPA. The HGE currently stores grains, soya beans and wood pellets transferred to, and from, bulk cargo ships and rail cars. The HGE is a critical piece of logistical infrastructure, being the only facility of its type on the East Coast with rail and ocean access. When it began operation, the land use around the HGE was mostly industrial. However, over time, residential and commercial development has taken place within the area surrounding the elevator. Additional mixed-use development opportunities are supported under Centre Plan.

Grain elevators pose potential safety risks associated with their operation primarily due to the presence of dust which, under certain conditions, can be flammable and explosive. The National Fire Code of Canada considers grain elevators to be “high-hazard industrial occupancies”. Mitigating features, such as dust collection systems and partitions to reduce explosion propagation, are in place at the HGE to manage these risks, but they do not eliminate the potential risks entirely.

Existing separation standards between industrial operations and incompatible land uses vary significantly across jurisdictions and are usually used to prevent new industrial uses from encroaching on existing residential and commercial uses, and not the opposite. Given this context, Policy ED-5 of the Regional Centre Secondary Municipal Planning Strategy (RCSMPS) provides direction for the Municipality to work with the HPA to study public safety risks associated with the grain elevator and its proximity to existing and future residential uses.

Following the adoption of Centre Plan Package B, the Municipality and HPA established a partnership to carry out the risk assessment study to provide advice on land use, development standards and potential risk mitigation strategies. Jensen Hughes, a risk-based engineering consultant, was contracted to conduct the study, which was completed in November 2022. In the months since, ongoing coordination between the Municipality and the HPA has taken place to confirm the details and recommendations in the report. The study was published on August 2, 2023 and is available on the municipality’s [website](#). Letters have been sent to landowners and residents in the study area informing them of the study’s release and encouraging them to review it. The following sections outline the planning context and the findings of the HGE Land Use Risk Assessment study.

Municipal Planning Strategy and Land Use By-law Context

Centre Plan Package A was adopted by Regional Council in fall 2019 and introduced new land use policies including the Higher-Order Residential, Corridor, Centre and Downtown Dartmouth mixed-use designations. Centre Plan Package B was adopted by Regional Council in fall 2021 and updated land use policies for Downtown Halifax, Established Residential areas, and Industrial Employment lands, among other uses.

As shown on Map 1, the HGE is located within the Industrial Employment (IDE) Designation. The IDE Designation is intended to support the long-term retention of industrial lands. The HGE lands are zoned Harbour-Related Industrial (HRI) which supports marine-related industrial uses.

The non-industrial lands around the Grain Elevator are within the Higher Order Residential and Established Residential designations. The HR Designation is intended to recognize existing multi-unit dwellings and provide opportunities for new multi-unit dwelling developments and compatible commercial uses by increasing housing options in the Regional Centre which are compatible with the scale of established neighbourhoods. The ER Designation is intended to retain the scale of existing low-density residential neighbourhoods while providing opportunities for additional housing units and home-based businesses.

As shown on Map 2, the surrounding lands are zoned Higher-Order Residential 1 (HR-1), Higher-Order Residential-2 (HR-2), and Established Residential 2 (ER-2) under the Regional Centre Land Use By-law

(RCLUB). The HR zones permit multi-unit buildings, local commercial uses and institutional uses, and the maximum permitted building heights are between 26 and 38 metres (approximately 8-12 storeys). The ER-2 zone permits two-unit dwellings, semi-detached dwellings, secondary suites, backyard suites and home based businesses, and the maximum permitted height is 11 metres.

The HR zones near the HGE were applied through Centre Plan Package A, adopted by Regional Council in 2019. During the Centre Plan Package B planning process, Policy ED-6 was adopted on lands within the “Halifax Grain Elevator Special Area” which requires all new or expanded residential development to proceed via development agreement. The policy requires the development agreement to consider the results of the risk assessment study. This policy is intended as an interim measure to control development near the HGE while a risk assessment was completed by the Municipality, and before amendments to the RCSMPS and RCLUB could be implemented based on the results of the study. Policy ED-6 also provides the option of a developer producing their own risk assessment to satisfy the requirement prior to the completion of plan amendments.

Halifax Grain Elevator Land Use Risk Assessment

Risk Assessment Approach

The study employed a quantitative risk assessment approach. The analysis considered the worst-case scenario – a dust explosion at the HGE – based on data from other grain elevator explosion events and dust explosion research. A risk-based approach determines the probability of fatality to an unprotected person based on two factors: the frequency of events (probability) and the associated consequences (effects of a dust explosion).

Following the establishment of the level of risk, the *Major Industrial Accidents Council of Canada (MIACC) Risk-based Land Use Planning Guidelines* were used to establish acceptable levels of risk and contours (separation distances from the facility) associated with specific land uses around the HGE.

Risk Contours

The product of the risk assessment is a set of five contours (buffers), each having permitted land uses based on the MIACC guidelines. These contours extend outwards from the HGE to a maximum distance of 90 metres (for the Annex 1-3 building) and 75 metres (for the Annex 4 building) with a fifth contour 100 metres out where property damage is likely to occur in the event of an explosion (see Figure 1). It is important to note that the risk assessment and MIACC guidelines do not specifically account for injury or property damage; they both estimate individual risk based on fatalities per year in the event of a dust explosion.



Figure 1: Risk Contours based on MIACC risk acceptance criteria.

Based on the risk assessment approach, eight buildings have been identified as being in contours that exceed the minimum distance for acceptable risk tolerance. In other words, eight buildings are closer to the HGE than recommended by the MIACC guidelines. The eight buildings include: five low-rise residential buildings on Blue Willow Court, one commercial property on Atlantic Street (Formac Publishing), as well as two multi-unit residential buildings on South Bland Street (Grainery Lofts and Terrace Apartments). The multi-unit buildings were developed by development agreements that remain in effect.

There are also several HR-1 and HR-2 zoned lots, some of which are vacant, located fully or partially within contours that exceed the minimum distance for acceptable risk tolerance for multi-unit buildings. Most of these lots are located on Mitchell Street, while two are located on South Bland Street

Land Use and Building Design Recommendations

The results of the study provide land use and building design recommendations, including:

- changing permitted uses within the risk contours to match the MIACC risk acceptance criteria;
- creating risk-mitigation built-form requirements for buildings in the contours, such as orienting windows and doors away from the HGE;
- requesting that the Province of Nova Scotia allow the municipality to regulate the construction of buildings in proximity to the HGE to control materials, such as fire-resistant cladding; and,
- restricting the ability for non-conforming uses and structures to expand within the precincts to the greatest extent possible within the limitations of the *Halifax Regional Municipality Charter*.

Other Study Recommendations

The report also provides recommendations on the operation and design of the HGE facility to mitigate risk, including:

- implementing the operational recommendations of another recently completed study, conducted by Jensen Hughes for the HPA;
- ensuring ventilation systems in the facility are able to remove dust during regular operation;
- performing regular inspections, testing and maintenance; and,
- building improvements to reduce explosion propagation and allow venting, should an explosion occur.

All of the other study recommendations have been accepted by and are the responsibility of the HPA and are outside the scope of the plan amendment process.

DISCUSSION

The RCSMPS is a strategic policy document that sets out the goals, objectives, and direction for long term growth and development in the Municipality. Amending the SMPS is a significant undertaking and should only be considered within the broader planning context and when there is reason to believe that there has been a change to the circumstances since the SMPS was adopted, or last reviewed. In this case, the *Halifax Grain Elevator Land Use Risk Assessment Study* has provided new information on land use risks around the HGE, which warrant Council's consideration of planning policy updates.

Policy Review

Amendments to the RCSMPS and RCLUB are required to implement the recommendations of the *Halifax Grain Elevator Land Use Risk Assessment Study*. In general, the policy review will consider:

- adopting the study's recommended risk-based precincts within RCSMPS policy and LUB regulations;
- amendments to built-form and building design requirements to implement the recommendations of the study; and
- amendments to limit the relaxations usually afforded to non-conforming uses and structures by the RCSMPS.

The following sub-sections discuss key review items that will be considered through the planning process.

Development in the HR-1 and HR-2 Zones

There are several lots zoned HR-1 and HR-2 next to the HGE lands on South Bland Street and Mitchell Street. Changes in permitted land uses and built form regulations recommended by the study will reduce the development potential of these lands, in some cases rendering entire lots unusable for multi-unit residential purposes. Some areas of these lots are also within the most restrictive risk-based precinct, greatly limiting the permitted land uses.

The combined effect of the reduced buildable lot area on these lots and the existing RCLUB built form and design requirements could present significant challenges to development. Therefore, the policy review will investigate options to mitigate these challenges and the impacts on the strategic growth goal of the RCSMPS. This may involve changes to built form and design requirements, or a discretionary development agreement policy to allow the considering of unique building forms and uses.

Existing Development Agreement Policy

The development agreement process required by Policy ED-6 currently applies to all new or expanded residential development within the Halifax Grain Elevator Special Area and was employed as an interim measure until the results of the land use risk assessment were available. Even development typically considered routine, such as adding an addition to an existing single unit dwelling, requires a development agreement.

While the existing development agreement policy manages development in the short-term, it adds a significant cost and process burden on residents and an administrative burden on the Municipality. At least two development requests for low-density residential development have been received by staff at the time of writing this report, which are now identified as acceptable based on the findings of the risk assessment study.

Furthermore, policy ED-6 does not require development of other uses to proceed via development agreement. As a result, new commercial or institutional uses could be developed in new or existing buildings closer to the HGE than recommended by the study. Therefore, the policy review will consider streamlining the approval process for development that is consistent with the study findings.

Discharge of Existing Development Agreements

Both 927 South Bland Street ("Grainery Lofts") and 961 South Bland Street ("The Terrace") are under development agreement and are partially located within study risk precincts that do not permit their use.

Therefore, the policy review will consider discharging these existing development agreements to prevent the buildings from rebuilding as currently permitted by those agreements. Discharging the development agreements would make the buildings non-conforming uses and structures. This review will involve discussions with affected property owners.

Jurisdiction

The HGE is located on lands administered by the HPA. Jurisdiction over its operation rests with the HPA, and ultimately ports are the jurisdiction of the federal government through Transport Canada. The Municipality has no jurisdiction over land use, building design, building inspections or emergency services on HPA lands. However, the Municipality and the HPA may cooperate to achieve common objectives.

HRM has routine communication and cooperation with the HPA. Through the planning process staff will continue to engage with the HPA to determine if there are any additional opportunities for cooperation on matters related to land use and the HGE.

Conclusion

Staff advise that amendments to the RCSMPS and RCLUB are necessary to implement the recommendations of the *Halifax Grain Elevator Land Use Risk Assessment Study*. Consideration of

discharging existing development agreements will also be reviewed to ensure that development near the HGE takes place within acceptable risk tolerances over the long-term.

FINANCIAL IMPLICATIONS

The HRM costs associated with this planning process can be accommodated within the approved 2023-2024 operating budget for Planning and Development.

RISK CONSIDERATION

Grain elevators pose inherent potential safety risks associated with their operation. There is mixed-use development in the area surrounding the Halifax Grain Elevator and the Regional Centre Plan supports additional development in the area. The recommendations of the *Risk Assessment* are intended to mitigate risks to public safety and property on lands surrounding the Halifax Grain Elevator by applying accepted risk-based land use planning guidelines. Should Council choose to not initiate the plan amendment process, new development may occur closer to the Grain Elevator than recommended by acceptable risk standards.

COMMUNITY ENGAGEMENT

Amendments to Municipal Planning Strategies must follow the public participation program as required by *Administrative Order 2023-002-ADM Respecting Public Participation for Planning Documents, Certain Planning Applications, and Engagement with Abutting Municipalities* (the AO). In this case, staff recommend that Regional Council adopt a public participation program that is different from the standard approach set out by the AO given the unique characteristics of the proposed project work.

In addition to the general webpage and notification requirements of the AO, staff recommend that:

- letters be sent to property owners and residents located within the identified risk precincts, instead of the standard 200 metre buffer area given that there is no specific subject site;
- requirements to erect a sign be waived, again given that there is no specific subject site; and
- property owners within the HR-1 and HR-2 zones be individually consulted to discuss potential development options on their lands and the potential discharge of existing development agreements.

ENVIRONMENTAL IMPLICATIONS

No environmental implications are identified at this time.

ALTERNATIVES

Regional Council could choose to:

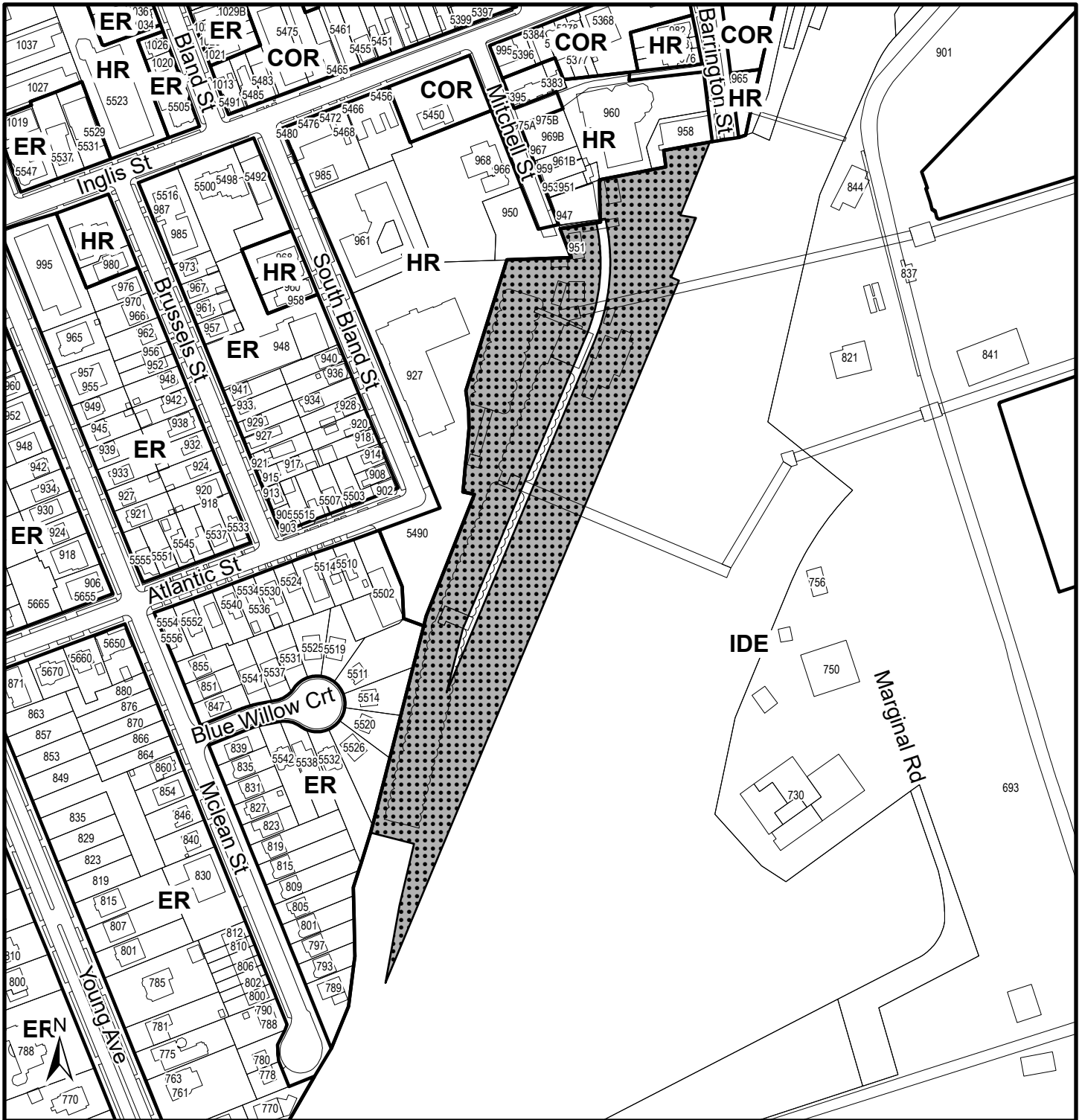
1. Not initiate the process to amend the Regional Centre Secondary Municipal Planning Strategy and Regional Centre Land Use By-law. This would maintain the existing policy requiring a development agreement for all residential development within the Halifax Grain Elevator Special Area. Commercial and institutional development are not covered by this policy and could continue to be permitted as-of-right within study risk precincts adjacent to the HGE.

ATTACHMENTS

Map 1: Generalized Future Land Use
Map 2: Zoning

A copy of this report can be obtained online at halifax.ca or by contacting the Office of the Municipal Clerk at 902.490.4210.

Report Prepared by: Ross Grant, Planner III, Planning and Development, 902.717.5524



Map 1 - Generalized Future Land Use

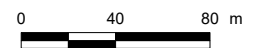
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HALIFAX

 Halifax Grain Elevator

Designation

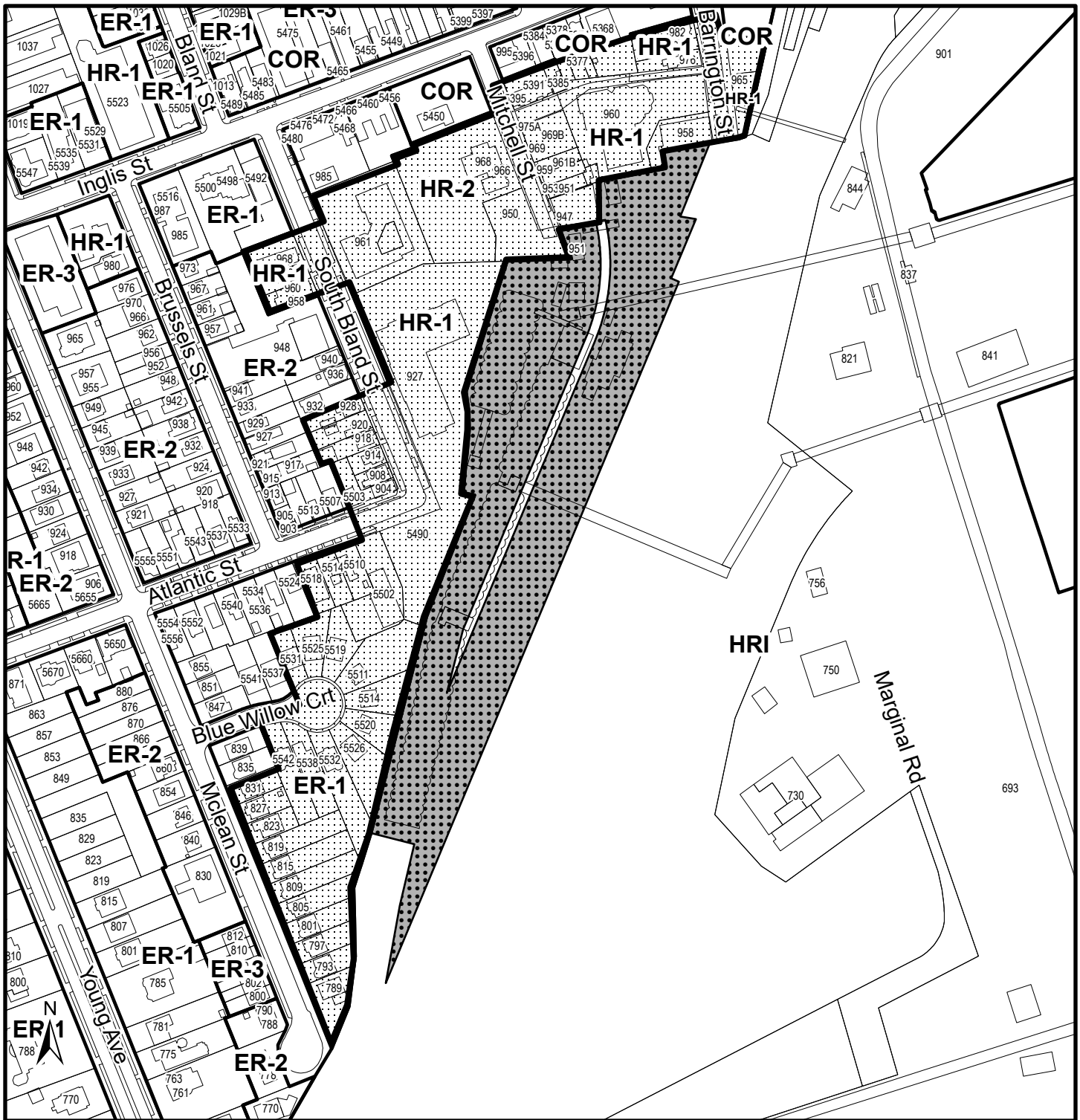
- HR Higher-Order Residential
- COR Corridor
- ER Established Residential
- IDE Industrial Employment



This map is an unofficial reproduction of a portion of the Generalized Future Land Use Map for the plan area indicated.

The accuracy of any representation on this plan is not guaranteed.

Regional Centre
Plan Area



Map 2 - Zoning

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HALIFAX



Halifax Grain Elevator

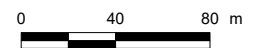


Halifax Grain Elevator Special Area

Regional Centre
Land Use By-Law Area

Zone

- HR-1 Higher-Order Residential 1
- HR-2 Higher-Order Residential 2
- COR Corridor
- ER-1 Established Residential 1
- ER-2 Established Residential 2
- ER-3 Established Residential 3
- HRI Harbour-Related Industrial



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