SS Wilson Associates
CONSULTING & ENGINEERING

REPORT NO. WA24-018-P2

PHASE 2
LAND USE COMPATIBILITY ASSESSMENT
PROPOSED NORTHWEST SECONDARY PLAN AREA
NIAGARA FALLS, ONTARIO

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EXECUTIVE SUMMARY

SS Wilson Associates Inc. (SSWA) was retained by the City of Niagara Falls to complete a Phase 2 Land Use Compatibility Assessment in support of the Northwest Secondary Plan. This Review supports the preparation of the Secondary Plan by evaluating how the City's Preferred Land Use Concept interfaces with surrounding land uses, transportation corridors, and features identified in the Phase 1 Assessment. The analysis applies the MECP D-Series Guidelines, NPC-300, NPC-119, the Environmental Protection Act definition of adverse effects, and standard Ontario land-use compatibility practices.

Phase 1 identified two Class II-equivalent facilities within 1 km of the Plan Area (Gauld Nurseries and the commercial plaza at 3770 Montrose Road). Source-based influence areas were mapped around these facilities and overlaid onto the Preferred Land Use Concept. No proposed sensitive land uses fall within the 300 m Class II influence areas, and no compatibility constraints arise from these facilities at the Secondary Plan stage.

It should be noted that subsequent to completion of the Phase 1 assessment, the northern portion of the commercial plaza located at 3770 Montrose Road has been redesignated and approved for residential redevelopment. The former Service Commercial zoning affecting the northern half of the site was amended to Residential R4, and Site Plan Approval has since been granted. As a result, the majority of the lands previously screened in Phase 1 as part of a Class II commercial facility are now planned and approved for residential uses, thereby removing their relevance as a potential source of adverse effects on the Plan Area. The remaining in-operation commercial uses (south portion of the site) are located just within the 1-kilometre D-6 screening distance from the Plan Area but fall well outside the 300 m MECP D-6 screening distance for a Class II facility. Accordingly, no land use compatibility concerns are anticipated in relation to the residual operations, and no further D-6 consideration is warranted.

The Walker Brothers Quarry, while outside D-6 applicability and located more than 1 km west of the Plan Area, remains a contextual consideration. Blasting and potential future landfill activity should be addressed through detailed noise, vibration, and air-quality studies at later planning stages.

External interfaces with Mountain Road and the QEW are the primary sources of potential environmental effects, particularly related to transportation noise and traffic-related air quality. These interfaces are compatible from a planning perspective but will require detailed noise studies to determine building siting considerations, façade and window design, ventilation/filtration provisions, and warning clauses at future development application stages. Internal transitions between mixed-use, medium-density, and low-density areas are also compatible, with any HVAC or loading interfaces to be reviewed in detail during site-specific design.

Overall, the Preferred Land Use Concept is compatible with the surrounding context. No Secondary Plan constraints are identified, provided that future development applications undertake the recommended technical studies and incorporate appropriate mitigation where required.

1.0 INTRODUCTION

1.1 Background and Scope of Phase 2

SS Wilson Associates Inc. (SSWA) was retained by the City of Niagara Falls to complete a two-phase Land Use Compatibility Assessment in support of the ongoing Secondary Plan process for the Northwest Secondary Plan Area (the "Plan Area"). Phase 1 of this assessment was completed in September 2024 and provided an inventory and classification of potential off-site land use incompatibilities in accordance with the Ministry of the Environment, Conservation and Parks (MECP) D-Series Guidelines, with a particular focus on Guideline D-6: Compatibility Between Industrial Facilities and Sensitive Land Uses. Figure 1 illustrates the Key Plan.

Phase 1 of the assessment documented the existing land use context, identified surrounding industrial and commercial operations, and established the potential influence areas associated with these existing uses in relativity to the boundary of the proposed Plan Area. This included the application of D-6 industrial classifications, identification of influence areas and minimum separation distances, and the preparation of mapping to illustrate the relationship between the Secondary Plan Area and nearby facilities.

Following the City's preparation of a Preferred Land Use Concept for the Northwest Secondary Plan Area (dated August 28, 2025), along with communication with City staff, SSWA has initiated Phase 2 of the Land Use Compatibility Assessment. The purpose of this Phase 2 analysis is to apply the Phase 1 findings to the Preferred Land Use Concept developed by the City, and determine where potential areas of sensitivity may occur as a clearer understanding of the proposed land uses within the Plan Area are better known. The purpose further is to discuss appropriate environmental requirements and considerations for land use interfaces within the Plan Area itself. Phase 2 will identify potential compatibility considerations, outline recommended high-level mitigation measures where appropriate, and provide direction regarding any detailed environmental studies that may be required at later stages of planning and development. Figure 2 illustrates the City's Preferred Land Use Concept, as noted above.

The Phase 2 assessment does not include quantitative noise, vibration, odour, dust, or air-quality modelling. Rather, its purpose is to provide a higher-level planning review to support Secondary Plan policy development, determine where further study will be required through future development applications, and assist the City in ensuring land use compatibility as growth progresses within the Northwest Secondary Plan Area.

It should be noted that agricultural operations are not considered industrial uses under MECP D-Series Guidelines and are therefore exempt from this land use compatibility screening.

1.2 Purpose and Objectives

The purpose of this Phase 2 assessment is to evaluate the preferred land use concept for the Northwest Secondary Plan Area through the lens of land use compatibility, using the influence areas, classifications, and findings established during Phase 1, and the area concept plan prepared by the City. Phase 2 focuses on identifying where sensitive land uses proposed within the Plan Area may interface with nearby land uses, transportation corridors, or existing facilities and determining whether these interfaces warrant further consideration as part of the Secondary Plan. This Phase 2 will also discuss appropriate environmental requirements and considerations for land use interfaces within the Plan Area itself.

To support this purpose, the objectives of Phase 2 are as follows:

- Apply the inverse of Phase 1 compatibility mapping (I.e, mapped from the industries to the Plan Area to see where overlap exists) to the City's Preferred Land Use Concept to identify locations where potential interactions or sensitivities may occur.
- Evaluate key land use interfaces within and adjacent to the Plan Area, including commercial areas, major roads, utility corridors, and other relevant facilities.
- Identify high-level environmental considerations related to noise, vibration, odour, dust, and air quality that may influence future planning and design.
- Outline recommended mitigation approaches appropriate for the Secondary Plan stage, recognizing that detailed technical analyses will be undertaken in later development phases.
- Provide clear direction regarding future study requirements at the development application level, where quantitative analyses and site-specific assessments will be completed.
- Inform the development of policy language for incorporation into the Northwest Secondary Plan to ensure long-term compatibility as the area develops.

Phase 2 is therefore intended to act as a planning-level assessment that bridges the broader Phase 1 findings with the more detailed work that will be undertaken as the Secondary Plan advances through implementation.

1.3 Study Area Description and Context

The Northwest Secondary Plan Area (the "Plan Area") is located in the north-westerly corner of the City of Niagara Falls' urban boundary and forms part of a recent urban boundary expansion identified through the Niagara Region's new

Official Plan (now City policy via Proclamation at Provincial level). The Plan Area has a gross area of approximately 101 hectares and is situated south of Mountain Road, west of the Queen Elizabeth Way (QEW), and east of Kalar Road. Its southern boundary aligns with and includes the existing Hydro One transmission corridor, beyond which established low-density residential neighbourhoods are located. The City's planning materials describe the area as supporting the creation of a "new community" within this portion of Niagara Falls.

Lands north of Mountain Road consist primarily of agricultural and rural uses within the Protected Countryside designation of the Greenbelt Plan (Escarpment Rural Area designation in the Niagara Escarpment Plan), reflecting the long-standing non-urban character of the area to the north. Lands west of Kalar Road include a combination of agricultural and environmental features, as well as lands subject to Ontario Regulation 4/23 (Minister's Zoning Order), which permits a golf course, hotel/resort accommodations, villas, event space, and related tourism-oriented facilities on Mountain Road west of the Plan Area.

To the east, the QEW forms a major transportation corridor influencing the overall context of the Plan Area. The lands with frontage along the neighbouring QEW corridor generally contain residential lands, and also include a mix of vacant, future development, and under-utilized parcels.

The City's Preferred Land Use Concept for the Northwest Secondary Plan Area (dated August 28, 2025) organizes the intended future community into a mix of low, medium, and higher density residential in mix-use blocks, parks, open space, and supporting infrastructure. This concept plan forms the basis for evaluating where future sensitive land uses may interface with nearby existing uses, transportation corridors, or planned facilities as part of the Phase 2 compatibility assessment.

2.0 METHODOLOGY

2.1 Overview of Phase 1 Findings

Phase 1 of the Land Use Compatibility Assessment for the Northwest Secondary Plan Area was completed by SS Wilson Associates on September 26, 2024 (Report No. WA24-018). The assessment was undertaken in accordance with the MECP D-1 and D-6 Guidelines, and focused on identifying potential off-site land use incompatibilities affecting the Plan Area from surrounding industrial and commercial operations.

The Phase 1 work described the Plan Area as being bounded by Mountain Road to the north, an existing residential subdivision to the south, Kalar Road to the west, and the Queen Elizabeth Way (QEW) to the east. The lands were recognized as newly added Designated Greenfield Area brought into the urban boundary by Niagara Region for “community use,” with surrounding land uses including ground-based residential to the south, long-standing commercial designations along the east side of the QEW, agricultural and Greenbelt/ NEP lands to the north, and environmental and agricultural lands to the west, including lands subject to a Minister’s Zoning Order for golf- and resort-type uses.

Methodologically, Phase 1 applied the MECP D-6 Guideline “Compatibility between Industrial Facilities” to classify nearby facilities as Class I, II, or III industries and to establish associated influence areas (70 m, 300 m, and 1,000 m, respectively) and minimum separation distances (20 m, 70 m, and 300 m, respectively). These setbacks were mapped from the Plan Area to determine whether any potential industrial sources fell within the relevant influence areas. A site visit was conducted to verify existing conditions and observe any dust, odour, air quality, noise, or vibration effects on the Plan Area. The assessment also included a review of MECP Environmental Compliance Approvals (ECAs) for facilities within the influence areas, and consideration of prevailing meteorological conditions using a wind-rose diagram. The diagram indicates that prevailing air movement is from the southwest/west toward the Plan Area, however, no industrial or significant emission sources are located upwind of the site, and therefore no compatibility concerns related to airborne contaminants are anticipated. Figure 3 illustrates the Phase 1 D-6 Distance Setback Figure.

Within the mapped D-6 influence areas, Phase 1 identified the Walker Brothers Quarry to the west (noted as outside the 1,000 m D-6 distance band but of interest due to ongoing quarry operations and potential future landfill use), Gauld Nurseries on Mountain Road (treated as equivalent to a Class II industry), and a commercial plaza at 3770 Montrose Road to the south (also treated as equivalent to a Class II industry). Sanitary and storm sewer facilities and existing landfill sites identified through ECAs were also reviewed and concluded to be of no concern. Site

reconnaissance confirmed that, at the time of the visit, there were no noticeable dust, odour, air quality, or vibration impacts from surrounding facilities on the Plan Area, and that the ambient noise environment was dominated by surrounding road traffic.

Phase 1 concluded that the neighboring industries are not expected to have adverse effects on the proposed Northwest Secondary Plan Area in terms of dust, odour, vibration, and noise, and that the Plan Area should be considered compatible with existing and proposed surrounding uses with respect to the MECP D-Series Guidelines, specifically D-6. The report recommended that independent noise/vibration, odour, and dust studies be undertaken in relation to the Walker Brothers Quarry, particularly with respect to blasting activities, and noted that any future landfill operations on the exhausted quarry lands would be required to demonstrate compatibility with the Northwest Secondary Plan Area as a residential community.

2.2 Approach to Phase 2 Assessment

This Phase 2 assessment builds directly on the findings and mapping established in Phase 1 and applies them to the Preferred Land Use Concept prepared by the City of Niagara Falls. The intent of the Phase 2 approach is to identify, at a planning-level, where future sensitive land uses within the Northwest Secondary Plan Area may interface with surrounding lands and facilities (and vice-versa), and whether these interfaces warrant further consideration as part of the Secondary Plan or at later stages of development.

The methodology for Phase 2 consists of the following key components:

• Integration of Phase 1 Compatibility Mapping

The distance setbacks, influence areas, and industrial classifications established in Phase 1 form the basis of the Phase 2 review. These include the 70 m, 300 m, and 1,000 m influence areas associated with Class I, II, and III industrial facilities, along with any other facilities or land uses identified through Environmental Compliance Approvals (ECAs) or field reconnaissance. These established influence areas are overlaid onto the Preferred Land Use Concept to identify locations where proposed residential, mixed-use, park, or community uses may fall within areas of potential sensitivity. An inverse distance separation figure (i.e. from the industries to the Plan Area) has been drafted for this purpose, and can be found in Figure 4. This figure allows for visualization of how the surrounding industrial/ commercial context effects specific parts of the proposed Plan Area.

• Assessment of Land Use Interfaces

The Preferred Land Use Concept introduces a more defined land-use structure within the Plan Area, including varied residential densities, mixed-use areas,

transportation corridors, and open space elements. Phase 2 therefore evaluates how these proposed uses relate to the external context documented in Phase 1, to determine whether any of these relationships warrant compatibility considerations.

• High-Level Environmental Review

Phase 2 considers compatibility from the perspective of noise, vibration, odour, dust, and air quality, consistent with Phase 1 and the MECP D-Series Guidelines. While Phase 2 does not include quantitative modelling or source-specific measurement, it identifies circumstances in which future detailed technical studies will be required as development applications proceed.

• Identification of Areas Requiring Further Study

Where the overlay analysis and interface review indicate that certain land use relationships may require further analysis (such as proximity to major roadways, transitions within the Plan Area itself, or adjacency to facilities noted in Phase 1) the Phase 2 assessment identifies these locations and outlines appropriate study areas at the development application stage.

• Direction for Policy and Implementation

The results of the Phase 2 review will be translated into recommended planning-level policy directions for inclusion in the Northwest Secondary Plan. These policy recommendations will focus on ensuring that future development applications address compatibility where necessary and that long-term mitigation measures can be appropriately secured through subsequent planning processes.

2.3 Assessment Criteria and Applicable Guidelines

This Phase 2 assessment applies the same regulatory framework and definitions used in the Phase 1 Land Use Compatibility Assessment, with a focus on identifying the potential for adverse effects related to noise, vibration, odour, dust, and air quality on future sensitive land uses within the Northwest Secondary Plan Area. The assessment criteria are based on the MECP D-Series Land Use Compatibility Guidelines, the Environmental Protection Act, and discipline-specific provincial guidance and policy documents.

MECP D-Series Land Use Compatibility Guidelines (D-1 and D-6)

Guideline D-1: Land Use and Compatibility identifies the Ministry's interest in preventing or minimizing land use conflicts where sensitive land uses are proposed in proximity to facilities that may generate environmental impacts, and vice versa. It provides direction on the use of separation distances and other control measures in land use planning.

Guideline D-6: Compatibility Between Industrial Facilities and Sensitive Land Uses is a supplementary guideline to D-1, and provides the primary framework for considering potential impacts from industrial and quasi-industrial uses on nearby sensitive receptors, and vice versa. It requires nearby facilities to be classified as Class I, II, or III based on their scale, emissions, and operational characteristics, and establishes associated influence areas and minimum separation distances for each class. As summarized in the Phase 1 report, the recommended influence areas are 70 m, 300 m, and 1,000 m for Class I, II, and III facilities respectively, with corresponding minimum separation distances of 20 m, 70 m, and 300 m.

In Phase 2, these D-6 classifications and distance criteria are used at a planning level to screen the Preferred Land Use Concept for potential compatibility considerations where proposed sensitive land uses fall within the established influence areas of facilities identified in Phase 1.

Definition of Adverse Effects

For the purposes of this assessment, the term “adverse effect” follows the definition in the Environmental Protection Act, R.S.O. 1990, c. E.19, which includes one or more of:

- Impairment of the quality of the natural environment
- Injury or damage to property or plant/animal life
- Harm or material discomfort to any person
- Adverse effects on human health or safety
- Rendering property or plant/animal life unfit for human use
- Loss of enjoyment of normal use of property
- Interference with the normal conduct of business

The Phase 2 analysis considers whether land use relationships created by the Preferred Land Use Concept could reasonably give rise to these types of effects in relation to noise, vibration, odour, dust, or air emissions.

Noise Criteria - Publication NPC-300

Potential noise-related compatibility issues are considered with reference to Publication NPC-300- Environmental Noise Guideline. NPC-300 provides sound level limits and assessment methods for stationary sources (such as industry and commercial facilities) and transportation sources (such as road and highway traffic), and is used by the Ministry and municipalities when evaluating environmental approvals and land use planning applications.

In Phase 2, NPC-300 is not applied through detailed calculations or modelling, but serves as the benchmark for identifying where future noise feasibility or detailed impact studies should be required at the development application stage.

Air Quality, Odour, and Dust - O. Reg. 419/05 Framework

For air quality related considerations, including odour and dust, Phase 2 references the broader framework established by Ontario Regulation 419/05, which sets contaminant-specific air standards intended to protect local air quality. These standards function as legal limits for industrial and commercial emitters in Ontario.

While this Phase 2 assessment does not undertake quantitative air dispersion modelling, the regulation provides the context for recognizing that future facility-specific air quality or odour studies, where required, must demonstrate compliance with applicable provincial standards and avoid adverse effects at sensitive receptors within the Plan Area.

2.4 Land Use Structure and Mapping Approach

The Preferred Land Use Concept for the Northwest Secondary Plan Area establishes the intended long-term land use structure of the area, including low, medium, and higher-density residential blocks, mixed-use areas, neighbourhood parks, open space associated with the hydro corridor, and the internal street network. The concept also identifies community institutional elements, including a schematic elementary school site and an existing place of worship, which function as additional sensitive land uses within and adjacent to the Plan Area. These elements form part of the overall land use framework against which compatibility considerations are evaluated.

For the purposes of the Phase 2 assessment, the Preferred Land Use Concept was imported into a GIS environment and spatially aligned with recent aerial photography. In contrast to the Phase 1 mapping, where influence areas were illustrated around the perimeter of the Plan Area to identify whether any external facilities encroached toward it, the Phase 2 exercise applies a source-based, inverse mapping approach. Under this approach, MECP D-6 influence areas are generated around each of the facilities identified in Phase 1 as potentially relevant to compatibility (namely, Gauld Nurseries and the commercial plaza at 3770 Montrose Road, both considered equivalent to Class II uses). The 300-metre Class II influence area is mapped from the property limits of each facility and then superimposed onto the Preferred Land Use Concept. This is illustrated in Figure 4.

This inverse method allows for a more precise identification of whether any proposed sensitive land uses, such as residential neighbourhoods, mixed-use blocks, parks, the planned elementary school, or the existing place of worship, fall within the MECP D-6 screening distances associated with surrounding facilities.

The results of this integration exercise form the foundation for the analysis presented in Section 3.2, where potential areas of interaction are reviewed based on the spatial relationships documented through the overlay mapping.

The City's Preferred Land Use Concept provided a basis for evaluating internal land use relationships within the Plan Area, including transitions between residential densities, adjacencies between mixed-use areas and sensitive uses, and interfaces involving institutional uses such as schools and places of worship.

3.0 COMPATIBILITY ASSESSMENT

3.1 Identification of Potential Conflict Areas and Discussion of Key Interfaces

The integration of the Preferred Land Use Concept with the source-based influence area mapping discussed in Section 2.5 provides the basis for identifying where meaningful land use interactions may occur between the Plan Area and surrounding features. As determined in Phase 1, the two facilities identified as requiring D-6 screening (namely Gauld Nurseries and the commercial plaza at 3770 Montrose Road) were found to be located entirely outside their 300-metre Class II influence areas in relation to the Plan Area. With this in mind, the Phase 2 assessment will also consider the broader context of potential interfaces. This includes external boundaries such as the Queen Elizabeth Way (QEW) corridor to the east, the agricultural and environmentally-designated lands to the north and west, and the existing residential neighbourhood beyond the hydro corridor to the south. In addition, consistent with the City's direction, this section also considers the interface with the Walker Brothers Quarry as a contextual feature, recognizing that quarry operations fall outside the scope of the MECP D-Series Guidelines and are located at a distance exceeding the 1,000-metre screening threshold typically associated with Class III industrial uses. Finally, internal land use relationships within the Plan Area are reviewed to identify where transitions between proposed residential, mixed-use, open space, and community uses may introduce compatibility considerations that warrant future attention at later stages of planning and design.

To organize the analysis clearly, this section is divided into two parts. The first subsection reviews the Plan Area's external interfaces, examining how its eastern, western, northern, and southern boundaries relate to surrounding land uses, transportation corridors, and contextual features. The second subsection evaluates internal land use relationships within the Plan Area itself, identifying where transitions between proposed residential, mixed-use, open space, and community institutional uses may require further attention through later stages of planning and design.

3.1.1 External Interfaces

Northern Boundary

Along the northern boundary of the Plan Area, the City's Preferred Land Use Concept identifies primarily mixed-use blocks with building heights ranging from 6-12 storeys and 10-15 storeys, supported by at-grade commercial uses, second-storey office permissions, and residential uses above. A smaller portion of medium-density residential is also proposed, consisting of 4-6 storey apartments or

townhomes. These land uses function as sensitive receptors under the MECP framework and therefore require review in relation to the surrounding context.

From an industrial compatibility standpoint, the only facility identified in Phase 1 near the northern boundary is Gauld Nurseries, located to the northwest. The nearest active operational areas of the nursery are located at a distance of approximately 800 m from the closest mixed-use parcel within the Plan Area. This separation is well beyond the 300 m Class II influence area established under MECP D-6 for a facility of this scale. At this distance, no adverse effects related to dust, odour, noise, or other activities associated with the nursery are anticipated, and no special policy direction or NPC-300 Class change is required to support mixed-use or medium-density development along the northern boundary.

The more relevant interface along this edge of the Plan Area relates to transportation sources, specifically Mountain Road, which directly abuts the northern boundary, and the Queen Elizabeth Way (QEW), which is located in relatively close proximity. Although road-traffic noise is not addressed within the MECP D-Series Guidelines,[1] the City has requested that these interfaces be reviewed from a high-level compatibility perspective. Given the mixed-use and medium-density receptor types proposed in this area, a detailed noise impact study consistent with NPC-300 will be required at the draft plan and detailed design phases. This future work will confirm appropriate measures such as building orientation, receptor placement, window and wall construction upgrades, air-conditioning requirements, and balcony design. It is anticipated that balcony depths may require control in accordance with NPC-300, although this will be confirmed through detailed modelling as part of future applications.

In addition to noise considerations, the proximity to the QEW warrants a traffic-related air pollution (TRAP) review at later planning stages to confirm compliance with applicable health-based objectives. While impacts are expected to be manageable for residential uses, future development applications should assess the need for HVAC filtration or other mechanical provisions to ensure acceptable indoor air quality. This is consistent with federal and provincial direction for major-corridor interfaces.

The Environmental Protection area located in the northern portion of the Plan Area does not present a compatibility concern. The City defines this area as a natural heritage feature requiring protection and buffering, subject to an Environmental Impact Study at the time of development. From a land-use compatibility perspective, this area is expected to function effectively as a transition space, being shielded by mixed-use and medium-density uses to the north and low-density uses to the east. Should the future EIS identify portions of this area as sensitive in an ecological sense, such sensitivity would not conflict with the built-form interface.

[1] Road-traffic noise is not included in MECP D-1 or D-6 compatibility screenings, however, it has been reviewed here in accordance with City direction and the requirements of NPC-300.

Overall, the northern boundary is considered compatible from a land-use perspective. The primary considerations relate to transportation noise and air quality, both of which are appropriately addressed through future detailed studies at the development application stage.

Eastern Boundary

The eastern boundary of the Plan Area is characterized by direct adjacency to Montrose Road, which itself abuts the Queen Elizabeth Way (QEW). Beyond the QEW are vacant future development lands and an established residential neighbourhood. The southeast corner of Mewburn and Mountain Road sees a new multi level-residential building, currently under construction. No industrial or existing commercial facilities requiring MECP D-6 screening are located along this interface, and therefore no industrial-related compatibility concerns arise on the eastern boundary.

The primary interface of interest is instead the traveled portion of the QEW, located approximately 40 metres east of the eastern boundary of the Plan Area. The Preferred Land Use Concept identifies low-density ground-related residential (20-25 units per hectare) along most of this boundary, with a smaller portion of medium-density residential (25-75 units per hectare). These medium density forms include ground-related housing, block townhouses, stacked townhouses, and mid-rise buildings up to 4-6 storeys.

The City has confirmed that Montrose Road is within the MTO-controlled right-of-way and therefore, the City should not expect the MTO to permit construction of a noise barrier approximately 23m inside of their right-of-way as opposed to at the right-of-way limit. As such, the City has requested guidance regarding whether special building design measures may be warranted along this eastern interface. From a planning-level perspective, mitigation is feasible through standard design tools used across Ontario for transportation-related noise exposure. These measures may include:

- building massing or blank wall placement on exposed facades
- acoustically rated windows
- sealed or non-opening windows where warranted
- provisions for air-conditioning
- appropriate warning clauses in accordance with NPC-300

It is important to note that NPC-300 Class 4 Area designation does not apply to this interface, as Class 4 applies only to stationary noise sources, not transportation corridors. However, because transportation noise is assessed against indoor sound level limits with windows closed, building envelope treatments provide an effective and commonly used means of achieving compliance.

Overall, from a compatibility standpoint, the eastern boundary interface is considered manageable at a planning level and is expected to be addressable through detailed noise studies at future development stages. No additional compatibility concerns were identified along the east boundary.

Southern Boundary

Along the southern edge of the Plan Area, the City's Preferred Land Use Concept identifies a substantial band of Open Space associated with the major Hydro One transmission corridor. As described in the Concept Plan, these lands are intended to function as a "*Major Utility Corridor with limited permissions for uses such as trail connections or other passive, non-invasive uses subject to authority approval."*. Along the corridor interface, the concept plan introduces a mix of Low Density Residential and a smaller component of Medium Density Residential. Low-density areas include single detached, semi-detached, duplex, triplex, and street townhouse forms (20–25 units/ha), while medium-density areas may include back-to-back and stacked townhouses or 4–6 storey apartments (25–75 units/ha).

From a compatibility perspective, the surrounding context along the southerly developable limits of the Plan Area is highly favourable. The lands directly south of the Plan Area consist of long-established low-density residential neighbourhoods extending several kilometres to the south. Residential-to-residential adjacencies generally do not pose compatibility concerns, and the presence of the hydro corridor provides an additional separation and buffering function between existing homes and future development within the Plan Area. As such, the proposed low- and medium-density uses along this boundary are fully compatible with the existing neighbourhood context.

With respect to transportation-related environmental considerations, portions of the southeast area remain within a range where noise and air-quality impacts associated with the QEW may warrant further review at the detailed design and draft plan of subdivision stages. As mentioned above, these matters can generally be addressed through standard design measures such as building orientation, upgraded glazing, provisions for air conditioning, and the use of warning clauses, consistent with City expectations for development in proximity to major transportation corridors.

Under the industrial compatibility framework, no concerns are anticipated along the southern boundary. The commercial plaza at 3770 Montrose Road, identified in Phase 1 as a Class II-equivalent facility, is more than 1 kilometre from the nearest proposed sensitive use in this portion of the Plan Area and therefore lies well outside its 300-metre Class II influence area. No D-Series or policy-based mitigation requirements arise from this relationship.

Overall, the southern boundary is well-positioned from a land use compatibility standpoint. The combination of adjacent residential uses, the utility corridor as a wide transitional open space, and the absence of industrial or commercial influences supports the suitability of the proposed low- and medium-density residential designations, with only standard transportation-related considerations to be addressed through future detailed studies.

Western Boundary

Along the western boundary of the Plan Area, the City's Preferred Land Use Concept proposes a combination of medium density residential, mixed-use blocks, and a smaller component of low-density residential. Medium density areas are defined by the City as multi-unit dwellings including block, back-to-back, and stacked townhouses and 4-6 storey apartment buildings (25-75 units/ha). Mixed-use blocks are defined as multi-level buildings up to 6-12 and 10-15 storeys with at-grade commercial, second-storey office permissions, and residential above (75-125 units/ha). Low-density areas permit single detached, semi-detached, duplex, triplex, and street townhouse forms (20-25 units/ha). Lands immediately west of the Plan Area are characterized primarily by environmental features (wetlands), agricultural use, and lands subject to a Minister's Zoning Order (MZO) that permits agri-tourism-oriented uses including a golf course, resort-style villas, and boutique hotel accommodations. While the timing of development on the MZO lands is uncertain, the nature of the permitted uses is generally compatible with the residential and mixed-use forms proposed along the western boundary, and no adverse effects or special compatibility policies are anticipated from the MZO-permitted uses.

Farther west, the Walker Brothers Quarry represents the nearest significant industrial-type operation, located over 1 km from the western edge of the Plan Area. As noted in Phase 1 and reiterated by City staff throughout the course of this assignment, the quarry remains a feature of interest with respect to long-term compatibility. However, the MECP D-Series Guidelines do not apply to pits and quarries, as confirmed in D-6, which defers such matters to site-specific studies. Although the quarry lies outside the 1,000-metre Class III influence area used for general industrial screening (and therefore falls well outside the scope of D-6) the quarry's long-term operational timeline and potential transition to a landfill use warrant acknowledgment. Public information and consultation materials indicate that approximately six years of extraction may remain before the quarry reaches exhaustion, with the potential for a subsequent landfill operation lasting an additional 20-30 years, subject to separate approvals.

Should quarry blasting still be occurring at the time of development within the Northwest Secondary Plan Area, compliance with NPC-119 and other applicable blasting and vibration guidelines should be confirmed. For completeness, and consistent with Phase 1 recommendations, it is appropriate that independent noise, vibration, odour, and dust studies be undertaken in future stages to

characterize any potential influence the quarry (or future landfill operations) may pose to the western boundary, particularly with respect to blasting activities.

3.1.2 Internal Interfaces

Within the Plan Area itself, the City's Preferred Land Use Concept establishes a clear internal structure with mixed use and medium density residential uses generally focused toward Mountain Road, environmental protection, medium density, and stormwater management areas toward the west, and low density residential neighbourhoods occupying the majority of the eastern and southern portions of the site. The hydro corridor/ open space designation forms a broad band along the southern edge of the Plan Area, with an elementary school and community park centrally located, and an existing place of worship identified along the west side of Montrose Road.

From a compatibility perspective, the most sensitive internal interfaces are those between the Mixed Use blocks along Mountain Road and the adjacent Medium Density and Low Density residential areas. The mixed use areas are intended to accommodate multi-storey buildings with at-grade commercial uses, office space, and residential units above, at densities of approximately 75-125 units per hectare. Where these parcels abut medium and low density residential, the concept plan already provides a generally logical transition in height and intensity, with medium density areas generally acting as a buffer between the higher-intensity mixed use and lower-intensity neighbourhoods. In these locations, compatibility is expected to be readily achievable through standard urban design measures, such as attention to building massing, step-backs, orientation of loading and service functions away from sensitive spaces and outdoor living areas, and the provision of fencing or landscaping along shared property lines to address potential noise and overlook from commercial activity.

In the one location where mixed-use blocks interface directly with proposed low-density residential areas, consideration should be given at the detailed design stage to the placement and acoustic treatment of rooftop or ground-mounted HVAC and mechanical equipment associated with the mixed-use buildings. While these uses are expected to be compatible at a planning level, detailed noise studies completed at the draft plan or site plan stage should confirm that mechanical equipment is oriented, screened, or acoustically treated in a manner that maintains compliance with NPC-300 criteria at nearby residential receptors. This typically includes early attention to equipment siting, rooftop layout, parapet or screen wall design, potential noise enclosures, and ensuring adequate setbacks from lot lines where sensitive uses are present.

The interface between Medium Density and Low Density residential areas is also common throughout the Plan Area. Given that both designations are residential in nature and are anticipated to share broadly similar activity patterns, no land use incompatibilities are anticipated. These transitions can typically be addressed

through detailed subdivision and built-form design without the need for special policy provisions from a compatibility standpoint.

The centrally located Community Park and Elementary School are surrounded primarily by low density residential uses, which is a conventional and compatible arrangement for neighbourhood-serving institutional and open space uses. The park and school will function as activity generators during daytime hours, however, these uses are not expected to represent significant sources of adverse effects beyond what is generally acceptable. At future stages of planning and design, detailed site planning can address typical operational considerations (such as lighting, play-field orientation, and parking / pick-up/drop-off circulation) to ensure that any localized noise or traffic associated with the school and park functions is appropriately managed.

The Environmental Protection designation and associated stormwater management blocks are surrounded by mixed use, medium and low density residential lands. This configuration is favourable from a compatibility perspective, as the environmental lands provide additional separation between neighbourhood areas. Future Environmental Impact Studies should confirm the detailed limits and management requirements for these features, but no compatibility concerns are anticipated in relation to nearby residential, park, or institutional uses.

Overall, the internal land use pattern shown on the Preferred Land Use Concept provides a logical and compatible arrangement of mixed use, residential, park, open space, environmental, and institutional uses. Where more active mixed use or institutional blocks interface with lower-intensity residential areas, compatibility is expected to be readily addressed through standard subdivision and site design measures at later stages of planning, without the need for extraordinary mitigation or changes to the land use structure identified in the concept plan.

3.2 Summary of Compatibility Outcomes

The results of the above Phase 2 analysis indicate that the Northwest Secondary Plan Area is well-positioned from a land use compatibility perspective. The two facilities identified in Phase 1 as requiring D-6 screening (Gauld Nurseries and the commercial plaza at 3770 Montrose Road) are located entirely outside their 300-metre Class II influence areas relative to the Plan Area. As such, no D-Series or industrial-related compatibility concerns are anticipated, and no policy direction or special planning controls are required with respect to these operations. The Walker Brothers Quarry, located over 1 km west of the Plan Area, falls outside the MECP D-Series framework and well beyond the distance typically evaluated for Class III-type operations. While quarry and potential future landfill activities warrant consideration through site-specific studies at later stages, no high-level compatibility constraints arise for the purposes of land use planning within the Secondary Plan. It should be noted that the proposed use of a landfill will need to recognize the Secondary Plan Area as a planned residential community within the

urban boundary with respect to their own study work and identification of surrounding land uses.

Compatibility outcomes related to transportation corridors, particularly Mountain Road and the Queen Elizabeth Way (QEW), are primarily associated with future noise and traffic-related air quality (TRAP) considerations. These matters are appropriately addressed through detailed noise impact studies at the draft plan and subdivision design stages in accordance with NPC-300, along with standard mitigation measures such as building orientation, acoustically rated glazing, provisions for air conditioning, and the use of warning clauses. From a planning-level perspective, these interfaces are considered manageable and do not pose constraints to the development of low, medium, or mixed-use residential forms proposed in the Preferred Land Use Concept.

Internal land use relationships within the Plan Area also demonstrate a compatible and logical arrangement. Transitions between mixed-use, medium-density, and low-density residential areas are generally well moderated by the concept plan, with medium-density blocks generally serving as a gradient between more intensive built forms and lower-intensity neighbourhoods. The Environmental Protection and stormwater management areas provide additional natural separation where present. A single location where mixed-use areas interface directly with low-density residential uses warrants attention at the detailed design stage to ensure rooftop or ground-mounted HVAC equipment is appropriately placed, screened, and acoustically treated in accordance with NPC-300 where necessary. Subject to these typical design considerations, all internal interfaces are expected to be compatible without requiring exceptional mitigation or modifications to the Preferred Land Use Concept.

Overall, the Phase 2 screening identifies no prohibitive compatibility barriers to the development of the Northwest Secondary Plan Area. All identified interfaces, both external and internal, can be addressed through standard planning and design measures, with more detailed technical review to occur at the development application stage. The Preferred Land Use Concept therefore provides a land use structure from which the subsequent phases of the Secondary Plan can proceed.

3.3 Recommended Studies, Policies, and Mitigation

The detailed planning and development application stages for the Northwest Secondary Plan Area will be supported by a range of technical studies prepared by future proponents. The recommendations below identify the key studies, mitigation strategies, and policy directions that arise specifically from the findings of this Phase 2 Land Use Compatibility Assessment. They are intended to guide future work rather than replace the more detailed analyses that will be required at later stages.

Noise and Vibration Studies

Given the Plan Area's proximity to Mountain Road, the Queen Elizabeth Way (QEW), comprehensive noise studies will be required in support of future subdivision, zoning, and site plan applications.

It is recommended that detailed environmental noise studies be completed in accordance with MECP Publication NPC-300. These studies should assess:

- Road traffic noise from Mountain Road, Kalar Road, the QEW, and Montrose Road
- Stationary noise sources associated with HVAC equipment serving mixed-use and multi-unit buildings within the Plan Area
- Any on-site communal mechanical systems introduced through detailed design
- Any neighbouring sources of noise that may be approved between the time of this report, to the detailed design phase

Where warranted by noise prediction models, mitigation measures may include:

- Building orientation and massing
- Acoustically rated windows and doors, with central air conditioning or equivalent mechanical ventilation
- Limits on balcony depths and locations adjacent to high-exposure façades, consistent with NPC-300 practice for high-rise development near provincial highways
- Noise barriers or local façade treatments where NPC-300 criteria cannot otherwise be achieved
- Appropriate HVAC unit selection/ acoustic mitigation measures
- Warning clauses in purchase and sale, lease, and site plan agreements advising residents of proximity to major roads and potential for higher ambient sound levels

For quarry-related blasting, should such activity still be occurring when the Northwest Secondary Plan Area is developed, a quarry/landfill–focused blast noise and vibration impact assessment is recommended. This work should be undertaken in accordance with NPC-119, which set limits for ground vibration and air overpressure at nearby sensitive receptors. Reference to NPC-300 should be made for any stationary noise components associated with quarry or landfill operations.

This future study(s) would confirm that blasting associated with the Walker Brothers quarry (or any successor use involving blasting) complies with applicable criteria at the Plan Area and would identify any monitoring or mitigation requirements that may be appropriate as extraction progresses or transitions to a new land use.

Air Quality, Odour, Dust, and Traffic-Related Air Pollution

Although Phase 1 did not identify any existing industrial facilities with air emissions of concern within D-6 influence distances, the proximity of parts of the Plan Area to the QEW suggests that air quality and traffic-related air pollution (TRAP) should be addressed at later stages of planning.

It is recommended that a screening-level air quality / TRAP assessment be undertaken for development blocks located closest to the QEW, referencing the health-based guidance developed by Public Health Ontario and the City of Toronto for near-roadway development (e.g., typical elevated risk within about 100-150 m of major highways and mitigation options such as filtration, building placement, and ventilation design).

Any such assessment should be prepared within the framework of O. Reg. 419/05, recognizing that while the regulation governs point-source emitters, its contaminant standards and assessment approaches are commonly referenced in land use compatibility and air quality studies in the Ontario land use planning context.

At the detailed design stage, the TRAP/air quality work should confirm

- whether enhanced filtration is appropriate for buildings closest to the QEW
- Whether any constraints on the location/orientation of outdoor amenity areas are warranted
- That future stationary sources associated with any new industrial or commercial facilities demonstrate compliance with provincial air standards and avoid adverse effects on the Plan Area

If, in the future, the Walker Brothers site transitions to a landfill or other waste-related use, a separate site-specific air quality, odour, and dust impact assessment may be considered by that proponent to demonstrate compatibility with neighbouring sensitive uses (including the Plan Area), consistent with MECP expectations under the Environmental Protection Act.

Recommended Secondary Plan Policy Directions

To ensure that the recommended studies and mitigation measures are actually carried forward, it is appropriate for the Northwest Secondary Plan to include policy language that:

- Requires environmental noise and vibration studies in accordance with NPC-300 (and NPC-119 where applicable) as a condition of approval for draft plan applications, and site plan applications introducing sensitive land uses within the Plan Area

- Requires air quality / TRAP screening or detailed studies for development blocks within a defined distance of the QEW, with attention to ventilation/filtration design and the placement of outdoor amenity areas
- Requires detailed mechanical/HVAC design review at the site plan stage for mixed-use and multi-unit buildings, to ensure rooftop and ground-mounted equipment is located, screened, and acoustically treated so that NPC-300 criteria are met at adjacent low-density dwellings
- Requires warning clauses in agreements of purchase and sale or rental agreements for units adjacent to major roads or other higher-activity edges, advising future occupants of the presence of transportation noise and potential for elevated ambient sound levels
- Require implementation of mitigation measures identified in approved environmental studies through zoning conditions, subdivision agreements, and site plan approval.
- Recognizes the Walker Brothers lands as a context feature of interest, and requires any future quarry/landfill proponent to demonstrate, through site-specific compatibility studies, that their operations will not cause adverse effects within the Northwest Secondary Plan Area

4.0 CONCLUSIONS

The Phase 2 Land Use Compatibility Assessment for the Northwest Secondary Plan Area builds on the findings and established influence-area mapping documented in Phase 1, and evaluates the City's Preferred Land Use Concept from the perspective of noise, vibration, odour, dust, air quality, and general land use relationships. The analysis confirms that the proposed land use structure is broadly compatible with the surrounding context and that no prohibitive constraints exist that would limit the development of the Secondary Plan.

Consistent with the Phase 1 conclusions, the two facilities identified for D-6 screening (Gauld Nurseries and the commercial plaza at 3770 Montrose Road) are located well outside their 300-metre Class II influence areas relative to the Plan Area. As such, no industrial-related adverse effects or policy controls are required. The Walker Brothers Quarry, located over 1 km to the west, falls outside the MECP D-Series framework and beyond the screening distance typically reviewed for Class III industrial operations. While quarry or future landfill activities may warrant site-specific technical study at later planning stages, they do not present a land use constraint at the Secondary Plan level.

The primary compatibility considerations relate to transportation sources are as a result of the Queen Elizabeth Way (QEW). These are appropriately addressed through future environmental noise studies in accordance with NPC-300, and through standard design and mitigation practices. Portions of the Plan Area closest to the QEW may also warrant review of traffic-related air pollution (TRAP) at the development application stage to confirm appropriate filtration and building placement measures.

Internal land use relationships within the Plan Area are well-organized and reflect a logical transition between mixed-use, medium-density, and low-density residential forms. The Preferred Land Use Concept provides appropriate separation through the Hydro One utility corridor, environmental protection blocks, and park and institutional uses. Only one internal interface (where mixed-use directly abuts low-density residential) requires targeted attention at later stages to confirm appropriate placement and acoustic treatment of mechanical/HVAC equipment in order to achieve NPC-300 compliance.

Overall, the Phase 2 assessment concludes that:

- No off-site industrial or commercial facilities generate compatibility concerns requiring land use changes or restrictive policy direction at the Secondary Plan stage.
- All external and internal land use interfaces are compatible in principle, subject to standard detailed studies and design measures at the development application stage.
- The Preferred Land Use Concept provides an appropriate and compatible framework for future subdivision, zoning, and site plan applications.

- Future technical work can be readily secured through Secondary Plan policies and subsequent approval processes.

The findings of this Phase 2 Land Use Compatibility Assessment support the advancement of the Northwest Secondary Plan Area through the next stages of planning and implementation.

FIGURES



FIGURE 1
Northwest Secondary Plan
Key Plan

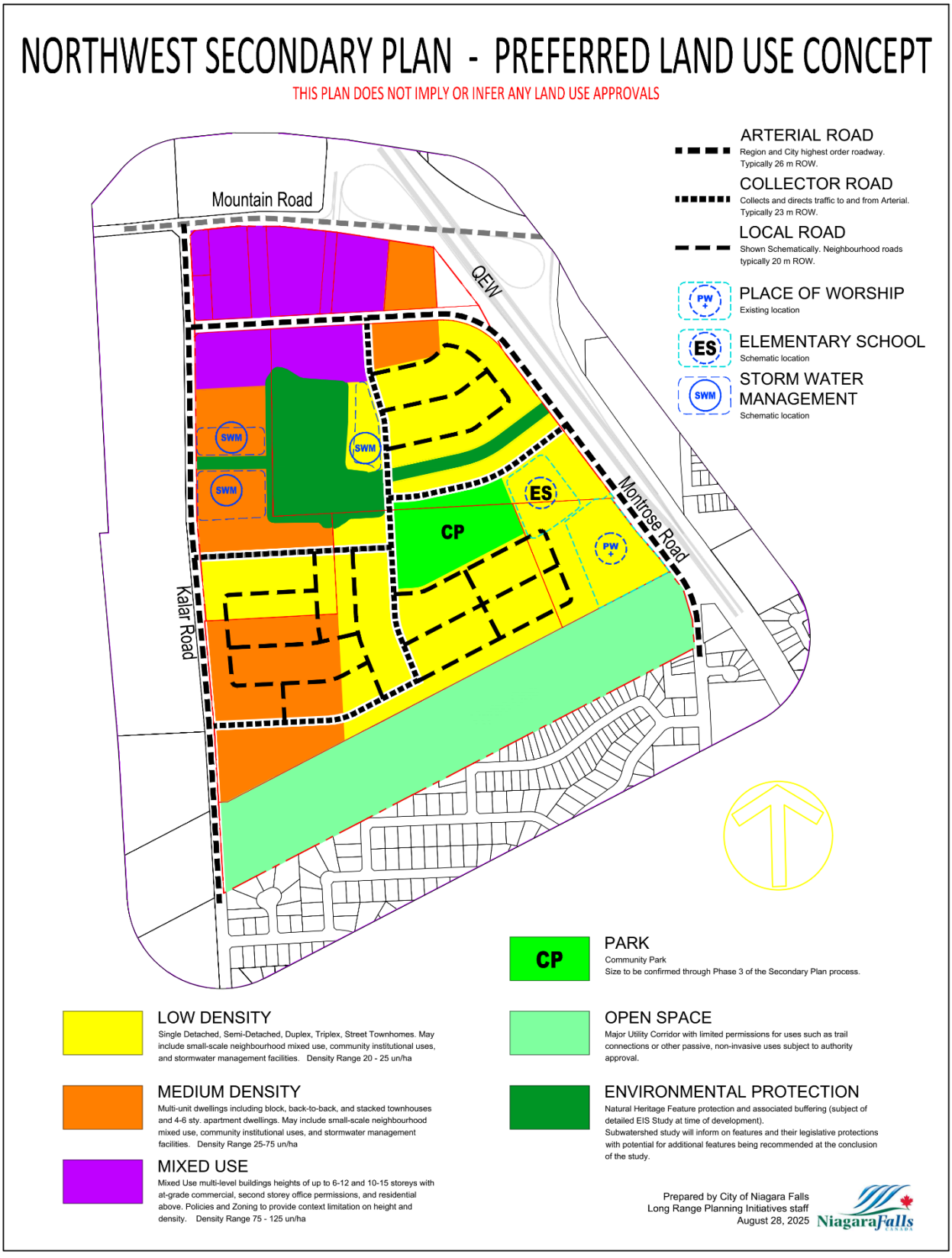
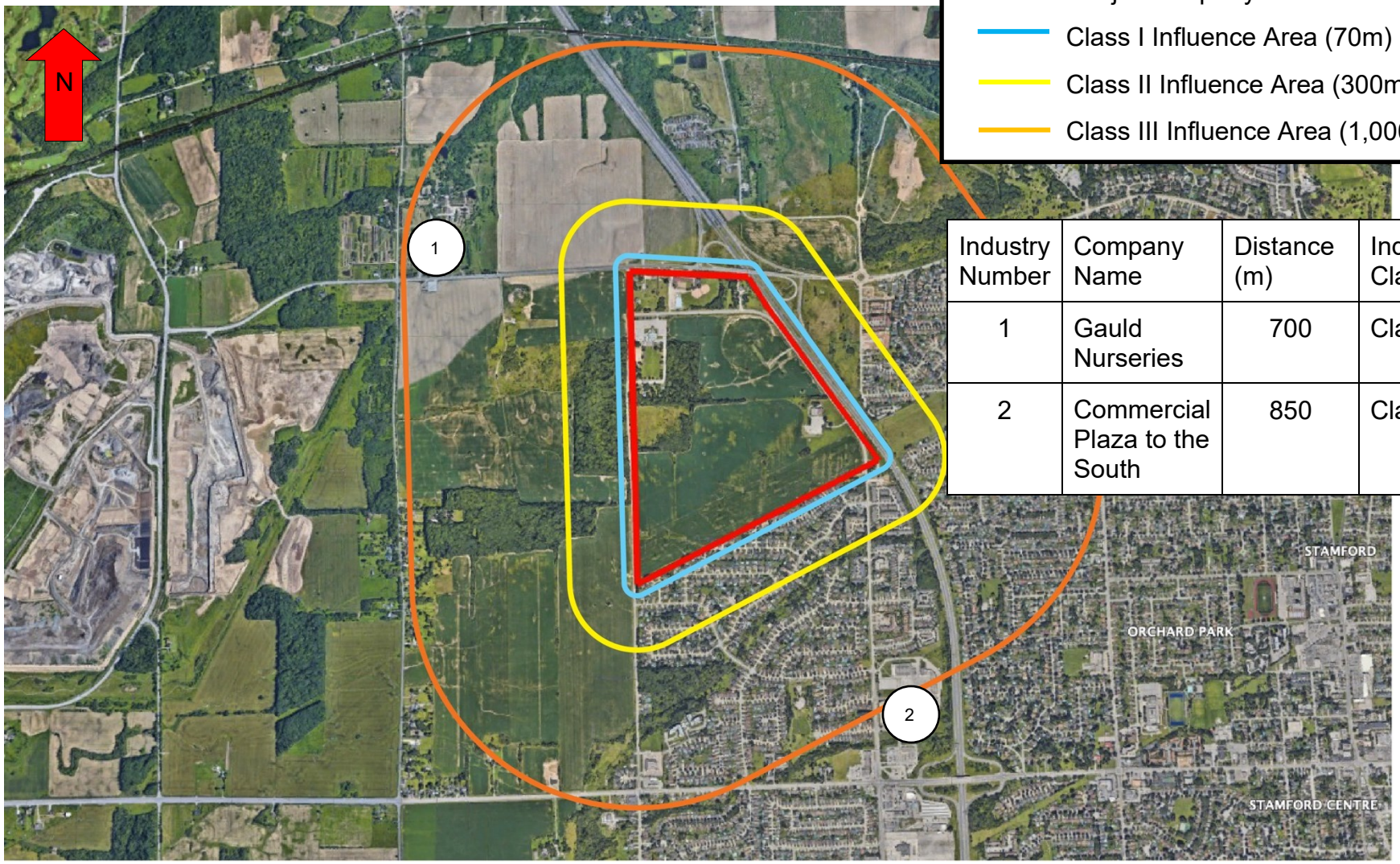


FIGURE 2
City of Niagara's Preferred Land Use Concept



LEGEND

- Subject Property
- Class I Influence Area (70m)
- Class II Influence Area (300m)
- Class III Influence Area (1,000m)

Industry Number	Company Name	Distance (m)	Industry Classification
1	Gauld Nurseries	700	Class II
2	Commercial Plaza to the South	850	Class II

FIGURE 3
Phase 1 D-6 Distance Setbacks

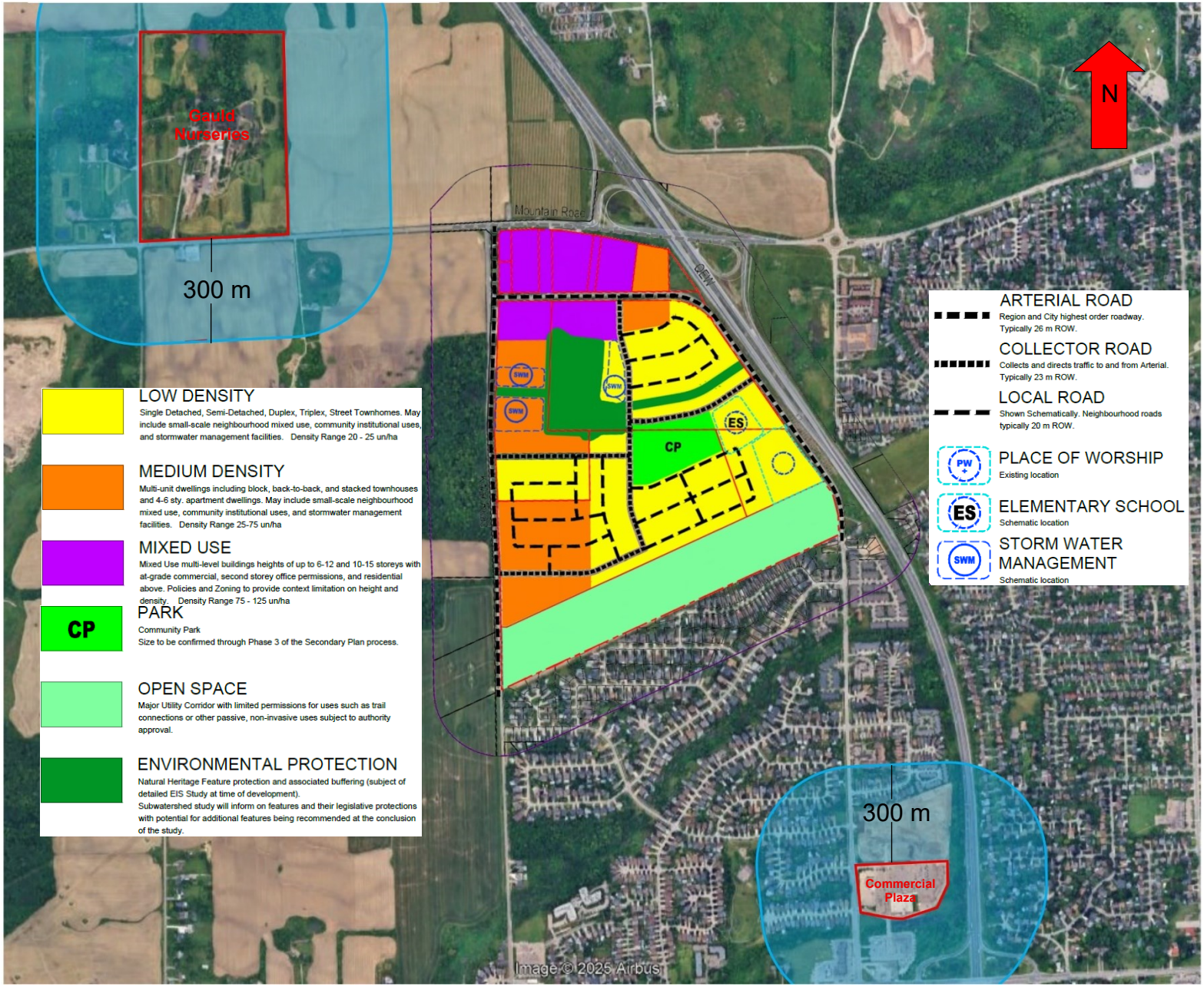


FIGURE 4
Phase 2 D-6 Distance Setbacks