

**Rural Residential Development  
Hillier Avenue Area  
Stephenville**

**Town of Stephenville  
Comprehensive Development Plan**

**July 30, 2025**

Hillier Avenue Rural Residential Development  
Comprehensive Development Plan

## **1.0 Introduction**

The Town of Stephenville has received requests from landowners in the Hillier Avenue area for the approval of unserviced residential lots in the Hillier Avenue area. The Town's current zoning and development regulations for this area do not allow for unserviced development.

This Comprehensive Development Area (CDA) Plan describes the proposed development of 15 unserviced residential dwellings in the Hillier Avenue area. It also lays the framework to determine if the area has the capability for to develop additional unserviced housing after the 15 dwellings have been constructed. The CDA Plan complies with the provisions outlined in Sections 2.1.5 and 3.1 of the Stephenville Municipal Plan as well as Regulation 46 and the Comprehensive Development Area-Residential use zone table of the Stephenville Development Regulations.

## **2.0 Background – Water Resource Concerns**

Initially proposed for residential development in 2018, previously proposed amendments to the Stephenville Municipal Plan and Development Regulations were refused by the Province due to concerns of the Provincial Water Resources Management Division about possible impacts on the Stephenville and Kippens water supply aquifers. Additionally, the most recent proposed amendments (MPA No. 10, DRA No. 17) were refused except for existing developments due to water security issues caused by anticipated competing water demands.

To address these concerns, Council recently had groundwater study completed by Fracflow Consultants Inc. (*3D Hydrogeological Model – Hillier Avenue Area, Stephenville: Assessment of Residential Impacts – Overburden Wells and Septic Drain Fields*, 2025), which considered the development of up to 15 residential dwellings serviced by onsite wells and septic systems. The study found that there is no evidence that the overburden and septic tank drain fields for this development, when based on an acceptable lot size, will pose an unacceptable risk to either the water quality or the water quantity in the underlying bedrock aquifer.

In an email dated July 7, 2025, Angela Buchanan, Groundwater Resource Manager with the Provincial Water Resources Management Division stated the following:

*“Based on the findings from the additional study and report 3D Hydrogeological Model Hillier Avenue Area, Stephenville, Assessment of Residential Impacts Overburden Wells and Septic Drain Fields completed by Fracflow for the Town of Stephenville, Water Resources Management Division, Groundwater Section, has no further comments or issues with the rezoning of Hillier Ave as long as any wells installed are shallow or overburden wells as per the description you provided below, under “Groundwater Supply” and any developments or activities within the Kippens Wellhead Protection Area follow the guidelines for development or activities within Wellhead Protection Areas, information can be found here:*

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<https://www.gov.nl.ca/ecc/files/Guidance-for-delineation-of-wellhead-protected-area.pdf>.

*WRMD also recommends at least 1 acre lot sizes for any developments to aid in recharge. Additionally, a section 61 permit is required for any development or activity within the Town of Kippens Wellhead Protection Area.”*

### **3.0 Area Description**

The development area includes approximately 72 hectares of land along both sides of Hillier Avenue (48.565N, 58.600W), which connects to Fowlow Drive in the south and extends approximately 1.4 kilometres northward to the boundary of the Kippens Wellhead Protected Water Supply Area. Fowlow Drive will be the only connecting access point into the development area.

The site is virtually flat with a slope of less than two percent from north to south and less than one percent from west to east. Ground cover is dominated by natural forest interspersed with pockets of cleared residential and agricultural land. Two small ponds are found within the area.

#### **3.1 Drainage Basins and Topography (Source: Fracflow, 2025)**

The development area is located on a topographic rise between Blanche Brook to the east and Gadons Brook to the west. Blanche Brook is approximately 25 metres below the ground surface in the general Hillier Avenue area and Gadons Brook is approximately 10 metres below the ground surface.

The Kippens and Stephenville areas are underlain by deposits of glaciofluvial sand and gravel ranging in thickness from 5 to 50 metres. The overburden material consists mainly of coarse sand and gravel with large cobbles. Silty-clay and sand layers are present in most of the production well locations.

The bedrock units considered to underlie the Hillier Avenue area include grey and red sandstone with siltstone, mudstone, local conglomerate and minor coal beds.

#### **3.2 Climate (Source: Fracflow, 2025)**

The annual mean temperature for the area is 5.01°C. The monthly mean temperature ranges from -6.33°C in February to 16.57°C in August.

Annual mean precipitation is 1,248.1 mm. The monthly mean ranges from 69.23 mm in April to 122.41 mm in January.

#### **3.3 Waterways and Wetlands**

As shown on the development map, the CDA includes two small ponds in close proximity to each other. The larger pond covers approximately 2.3 hectares and the smaller pond covers approximately one hectare. It is proposed that all land within 15 metres of the shorelines of these ponds will be zoned Environmental Protection.

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A large wetland area, currently zoned Environmental Protection, is located immediately west and south of the site. No changes are proposed for this zone

Immediately north of the site, land is zoned Wellhead Protected Water Supply Area to protect the drinking water supply for the Town of Kippens.

### **3.4 Land Use**

Existing land uses in the development area include nine residential properties and several small pockets of agricultural land. The remainder of the area is undeveloped.

The closest built-up areas outside the CDA are the Fowlow Drive residential area, which lies 170 metres to the south of the CDA boundary and the Simon Drive/Green Drive residential area 150 metres to the east of the boundary.

Under the Stephenville Municipal Plan, the future land use designations covering the site include Residential and Environmental Protection. Under the Development Regulations, the zoning includes Comprehensive Development Area-Residential (CDA-R), Country Living Residential (CLR) and Environmental Protection (EP).

Under the CDA-R zone, permitted uses include conservation and recreational open space and discretionary uses include agriculture and forestry. Development is required to be connected to municipal water and sewer.

Under the CLR zone, permitted uses include conservation, home office, recreational open space, and subsidiary apartments. Discretionary uses include antennas and home businesses. Development is required to be connect to municipal water and sewer.

Under the EP zone, permitted uses include conservation and recreational open space and discretionary uses include agriculture, antennas, and transportation.

This Plan proposes to amend the Municipal Plan and Development Regulations to accommodate a limited number of unserved residential lots in the area in accordance with the findings of the Fracflow study. The Municipal Plan amendment will redesignate approximately 69.3 hectares of land from Residential to Rural and another 3 hectares from Residential to Environmental Protection.

The Development Regulations amendment will rezone approximately 61 hectares from Comprehensive Development – Residential (CDA-R) and approximately 8.3 hectares from Country Living Residential (CLR) to a new zone named Rural Residential 2 (RR2). Another 3 hectares will be rezoned from CDA-R to Environmental Protection.

### **3.5 Roads and Services**

Hillier Avenue is the sole road access into the development area. Approximately 700 metres of Hillier Avenue is a public road maintained by Council. The remaining 750 metres

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of the road to the north boundary of the CDA area is privately maintained. Other than several private driveways, there are no other roads in the development area.

No municipal water or sewer services are provided in the area.

### **3.6 Site Suitability**

The previous refusal by the Province of proposed residential development was based on concerns of the Water Resources Management Division regarding potential water quality impacts on the Stephenville and Kippens water supply aquifers and the potential for other groundwater demands to leave shallow wells deficient. The Division's objections have now been dropped based on the proposed restriction on new wells intersecting with the underlying municipal aquifers, and Fracflow's finding that septic field seepage in the overburden would not affect the deep aquifers.

The issue about potentially competing demand on the municipal aquifers no longer exists.

There are no abutting land uses that the proposed development would be incompatible with. It will remain physically separated from the nearby Simon Drive/Green Drive residential area east of the site and will be buffered from the Fowler Drive residential area by a wetland zoned Environmental Protection.

The area's two small water bodies will be protected by a minimum 15-metre Environmental Protection buffer zone. The large wetland located west and south of the site are already protected from development by the Environmental Protection zone.

## **4.0 Comprehensive Development Plan**

### **4.1 Roads**

Hillier Avenue will remain the sole access road into the development area. Approximately 700 metres of the street extending from Fowlow Drive will remain a public road maintained by the Town. The remaining 750 metres of Hillier Avenue will remain a private access maintained by landowners.

Side roads to provide access to residential lots will be permitted subject to a condition that maintenance will be the exclusive responsibility of the landowners.

### **4.2 Residential Development**

The above-mentioned hydrogeological study by Fracflow Consultants supports the development of 15 unserviced residential lots. That will be the maximum approved in the development area until a full Level II hydrogeological assessment undertaken in accordance with the requirements of the Water Resources Management Division shows that additional lots can be developed without negatively impacting the area's groundwater supply.

Permitted residential uses will be limited to one single dwelling and one subsidiary apartment on an individual lot.

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This development plan does not propose a residential lot layout. Applications will be considered on an individual basis for unserviced lots in any location within the development area.

Lot development standards will be as follows:

SINGLE DWELLING STANDARDS	Single Dwelling
Minimum lot area	4,000 m <sup>2</sup>
Minimum frontage	45 m
Minimum building line setback	15 m
Maximum building line setback	30 m
Minimum sideyard	10m one side, 5m other side
Minimum sideyard width on flanking	10 m
Minimum rearyard	30 m

Applicable conditions for onsite water supply and onsite sewage disposal will be as follows:

1. Water Supply  
Placement and construction of a well must not compromise water quantity or water quality in the underlying bedrock aquifer or on adjacent lots. Council will ensure that onsite water supply complies with applicable Provincial regulations and requirements for unserviced development.
  - Water will be supplied from a dug well or drilled well that does not intersect bedrock.
  - Depth to bedrock will be confirmed prior to well construction.
  - A general layout showing well location on the lot and construction details will be submitted for approval prior to construction.
  - Maximum drilled well depth will be 20 m below ground surface or no less than 10 m above bedrock.
  - Installation of the water supply well will be subject to approval by the Government of Newfoundland and Labrador, Service NL.
  - Approved well location and construction details will be a condition surviving the sale of the lot, enforced through restrictive covenants on the property deed.

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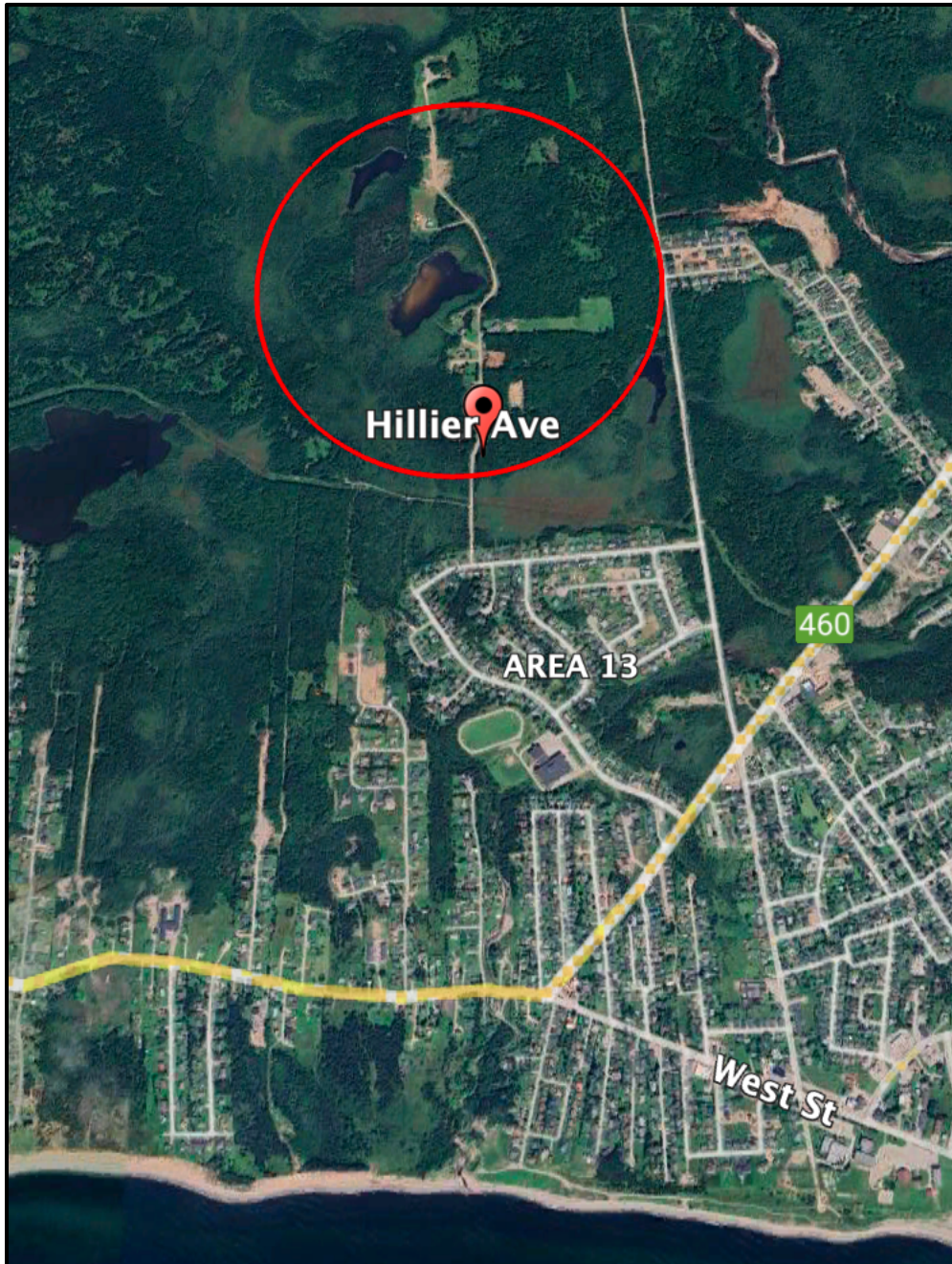
2. Sewage Disposal

Placement and construction of a septic tank and disposal field must not compromise water quality in the underlying bedrock aquifer or on adjacent lots. Council will ensure that onsite sewage treatment and disposal complies with applicable Provincial regulations and requirements for unserved development, including the Sanitation Regulations under the Public Health Act.

- A general layout showing well location on the lot and construction details will be submitted for approval prior to construction.
- Installation of the septic system will be subject to approval by the Government of Newfoundland and Labrador, Service NL.
- Approved septic system location and construction details will be a condition surviving the sale of the lot, enforced through restrictive covenants on the property deed.

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**Appendix 1 – Site Location**  
Coordinates (48.565N, 58.600W)





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## Appendix 2 – Development Plan

