Project Severance - Development & Engineering Report

Project Address: 1570-1572 Goth Avenue, Ottawa, ON
Zoning Designation: Neighbourhood Zone 2, Subzone B (N2B)
Application Type: Pre-Application Consultation / Site Plan Control / Minor Variance Submission Brief
Document Status: Formal Presentation Draft

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1. Project Planning Rationale & Property Topology

1.1 Development Objective

This report compiles the updated spatial and engineering metrics required to secure municipal planning, surveying, and civil engineering approvals for a multi-unit residential infill development at 1570-1572 Goth Avenue. The proposal features an advanced front-to-back residential layout configured as two vertically attached multiplex blocks divided by centralized architectural components and flanked by customized garage spaces. The design optimizes an irregular, deep flag-style parcel while respecting N2B low-rise performance metrics and safeguarding neighborhood context.

1.2 Property Topology & Specific Parcel Geometry

The subject property features a custom, stepped access corridor extending from the Goth Avenue public right-of-way to an expansive building pocket. To resolve municipal service routing, access lane standards, and neighboring utility lines, a concurrent **Boundary Line Adjustment (BLA)** will be executed with the co-owned adjacent property to configure the entrance corridor as follows:

- **Street Entrance Line:** Measures 8.0 metres wide at the public street lot line.
- **First Segment (0 to 30 ft depth):** Maintains a uniform 8.0-metre width adjacent to the street line.
- **Engineered Bottleneck (30 to 70 ft depth):** At the 30-foot mark, the property line is shifted 1.5 metres into the co-owned parcel, establishing a **6.77-metre width** running for a continuous 40-foot length.
- **Second Segment (70 to 100 ft depth):** At the 70-foot mark, the lane expands to an **8.27-metre width** for the final 30 feet of the corridor run.
- **Main Flag Pocket (100 to 300 ft depth):** At the 100-foot mark from the street line, the parcel opens completely into a premium, rectangular building pocket measuring **70 feet wide by 200 feet deep**.

1.3 Proposed Development Layout Breakdown

Calculated from the deemed front boundary of the 70 ft × 200 ft rear flag pocket, the development consists of a singular, structurally unified front-to-back linear spine. The structure spans 40 feet in width and consumes a total depth of 171 feet, configured exactly in the following linear sequence:

1. **Deemed Front Yard Setback:** 15 feet clear from the neck of the flag lot.
2. **Front Garage Attachment:** A 22-foot deep double-car garage footprint. The flat roof of this volume is engineered as an open outdoor deck space for second-floor residents, featuring an integrated exterior emergency escape staircase down to the yard space.
3. **Unit A (Front Block):** A 40 ft × 40 ft, 3-storey, flat-roofed residential multiplex volume.
4. **Central Link Assembly:** A 12-foot attached garage, transitioning to an 8-foot central enclosed staircase tower, followed by a matching 12-foot attached garage (Total Link Depth: 32 feet).
5. **Unit B (Rear Block):** A 40 ft × 40 ft, 3-storey, flat-roofed residential multiplex volume.
6. **Rear Garage Attachment:** A 22-foot deep garage volume terminating the structure. The flat roof of this volume is engineered as a private outdoor deck space for second-floor residents, equipped with an independent escape staircase down to the yard.

Remaining Backyard Clearance: The structure leaves a completely clear **29-foot deep backyard** at the rear lot line (200 ft total pocket depth minus 15 ft front yard minus 171 ft building depth = 29 ft clear backyard).

1.4 Lateral Spatial Placement & Asymmetric Yard Setbacks

The 40-foot wide principal structure perfectly spans the adjusted 70-foot width of the flag pocket by positioning the building off-center to prioritize vehicular tracking and utility installation:

- **Laneway Side Yard Setback: 20 feet clear** from the building wall to the property line. This provides a wide, continuous route for vehicle movement, service access, and emergency deployment.
- **Opposite Side Yard Setback: 10 feet clear** from the building wall to the property line.
- **Total Pocket Width Alignment:** 20 ft (Laneway) + 40 ft (Structure) + 10 ft (Opposite) = 70 feet total width (100% mathematical compliance with adjusted lot boundaries).

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2. Building Code, Egress, & Environmental Systems Compliance

2.1 Enclosed Shared Stairwell Core & Egress Architecture

The upper-floor residential suites utilize a high-performance central circulation core. All four upper-floor units share a single, fully enclosed, weather-protected common staircase tower rising from ground level to the second-story platform. At the second-floor landing, the common zone terminates, and independent, fully enclosed staircases branch off to provide separate private entries into each individual third-floor unit. These third-floor stairwells continue internally to the roofline, allowing private access out onto distinct rooftop decks via weatherproof, enclosed vertical exit vestibules.

By fully enclosing the entirety of this centralized staircase network within insulated exterior walls, the design completely bypasses Ontario Building Code (OBC) restrictions and safety hazards associated with exposed, icy outdoor multi-story escape paths. Secondary emergency exits are integrated at the rear of the central garage platform.

- **OBC Single Egress Core Regulations:** Funneling four upper-floor suites through a single common staircase corridor from the ground to the second floor utilizes the updated Single Egress Multi-Unit Residential Core provisions under the modern Building Code frameworks. To satisfy compliance, the entire enclosed central staircase tower must be built as a strict, self-contained fire chamber using a minimum 45-minute to 1-hour fire-resistance-rated assembly (Type X drywall) and equipped with certified self-closing fire doors.

2.2 HVAC Isolation & Environmental Systems

To protect the structural integrity of the fire separations and prevent smoke or air cross-contamination between separate apartments, the enclosed common stairwell must maintain complete atmospheric isolation. The stairwell will use localized, independent electric baseboard heaters. Each baseboard heating zone within the staircase run will be wired directly into the electrical panel of the specific residential suite it services, eliminating the need for shared ductwork or centralized air forcing across unit thresholds.

2.3 Garage Roof Decks: OBC Structural Guardrail Provisions

Because the flat roof surfaces of both the 22-foot front garage and 22-foot rear garage function as active, programmable living space (outdoor decks) for the second-floor units, they must strictly comply with **OBC Section 9.8.8 (Guards)** to manage drop-off hazards:

- **Minimum Height Requirements:** Since the finish deck levels sit higher than 1800 mm (5 feet 11 inches) above the surrounding grade, all perimeter guards must maintain an absolute minimum vertical height of **1070 mm (42 inches)** measured from the walking surface.
- **Non-Climbability Mandate:** The guardrail picketing, glass panels, or mesh assemblies must be designed to discourage climbing. No horizontal rails or ornamental cutouts are permitted between the heights of 140 mm (5.5 inches) and 900 mm (35.5 inches) from the deck surface.
- **Maximum Opening Matrix:** Openings through any part of the guard system (including vertical pickets or spaces below glass frames) must be small enough to prevent the passage of a spherical object with a diameter of **100 mm (3.94 inches)**.

2.4 Landscaping Ratios: Total Property vs. Front Yard

The city divides green space requirements into two distinct metrics, both of which are fully integrated into this site layout:

- **The Overall Property Standard (30% Rule):** Across the entire parcel, at least **30% of the total lot area** must consist of soft landscaping (grass, permeable soil, trees, or gardens). Because the flag lot has a massive overall footprint, the combination of the 29-foot backyard, the 15-foot front setback, and the 10-foot opposite side yard easily satisfies this balance.
- **The Front Yard Standard (50% Rule):** This applies strictly to the front yard area (the space between the front wall of the first garage and the front property line). Within that specific boundary, **50% must remain soft landscaping**. The driveway leading into the 22-foot front double garage will be offset to leave at least half of that 15-foot front yard unpaved.
- **The Backyard Area:** There is no 50% landscaping mandate for the backyard in the N2B zone, meaning the 29-foot backyard space can be split flexibly between hardscaping (patios/decks) and green spaces.

2.5 Adjacent Property Parking Realignment

Shifting the property boundary line to widen the development's entrance lane to 6.77 metres will shrink the remaining side yard of the co-owned adjacent double building down to 1.5 metres. While this prevents the adjacent building from continuing to use its side yard for vehicle parking, it remains fully legal due to the following alignments:

- **Side Yard Minimums:** Table 801B mandates a 1.8-metre combined total side yard for the N2B zone. Because the adjacent property possesses a massive 3.82-metre setback on its opposite exterior side, the adjusted layout yields a combined total side yard of 5.32 metres (1.5m + 3.82m), vastly exceeding city rules.
- **Front Yard Parking Relocation:** The adjacent double building features an expansive 11.72-metre deep front yard between its front wall and the street line. A new 6-metre wide, double side-by-side front parking pad will be paved within this space. Because the front yard is so deep, a 6-metre wide driveway consumes only a fraction of the area, easily over-complying with the mandate that 50% of the front yard area must be preserved as soft landscaping (sod/gardens).

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3. Zoning Compliance Matrix

The following evaluation summarizes how the proposed development interacts with the performance standards of Ottawa Comprehensive Zoning By-law 2026-50:

- **Lot Width Compliance:** Complies As-of-Right. Measured at the 4.5-metre front yard setback line within the front zone, the lot width tracks at 8.0 metres, satisfying the N2B baseline minimum lot width.
- **Front Yard Setback:** Complies As-of-Right. Meets the 4.5-metre minimum by implementing a 15.0 ft (4.57 m) setback from the Deemed Pocket Line.
- **Side Yard Setbacks:** Complies As-of-Right. Asymmetric side yard metrics of 20.0 ft (6.10 m) and 10.0 ft (3.05 m) within the flag pocket vastly exceed the Table 801B minimum total requirement of 1.8 metres.
- **Rear Yard Setback:** Complies (Sec. 801(7)(e)). The remaining 29.0 ft (8.84 m) clear backyard space satisfies the deep lot cap provision, which legally limits the mandatory rear yard depth calculation to a maximum of 7.5 metres (24.6 feet).
- **Building Height:** Complies As-of-Right. The flat-roofed, 3-storey configuration conforms perfectly under the 11.0 m maximum ceiling.

- **Lot Coverage:** Complies As-of-Right. The 3,200 sq. ft. total building footprint accounts for approximately 22.8% ground footprint coverage on the 14,000 sq. ft. pocket area, remaining well below municipal caps.
- **Building Depth (Minor Variance Required):** The continuous front-to-back construction plan creates an interconnected external spine wall measuring 171.0 ft (52.12 m), which exceeds the 20-metre zoning ceiling. A Minor Variance is requested. The low-profile 22-foot garages on both ends, combined with the central 32-foot low-rise garage and stair link, successfully break up structural massing, ensuring zero negative shadow or privacy impacts on adjacent lots.

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4. Civil Engineering Report Template Guidelines

This index delineates the mandatory reporting requirements that the retained civil engineering consultant must satisfy when submitting the formal **Site Servicing & Stormwater Management Report** to the City of Ottawa Development Review branch:

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1.0 ENGINEERING CONTEXT & SITE TOPOGRAPHY
   1.1 Analysis of Stepped Access Corridor: 0-30ft (8m width) | 30-70ft (6.77m bottleneck) | 70-100ft (8.27m width).
   1.2 Grading profiles tracking the transition into the main 70ft x 200ft building pocket.
2.0 MUNICIPAL INFRASTRUCTURE AVAILABILITY
   2.1 Connection mechanics to the Near-Side Pressurized Water Distribution Main on Goth Ave.
   2.2 Connection mechanics to the Centerline Gravity Wastewater Collection Main (Sanitary Sewer).
   2.3 Cross-street cut analysis to tie into the Far-Side Stormwater Infrastructure.
3.0 CORRIDOR SERVICE TRENCHING & PIPELINE SEPARATION
   3.1 Sizing and layout optimization within the 6.77m Boundary Line Adjustment zone.
   3.2 Verification of mandatory 2.5-metre horizontal separation between water and sanitary laterals (MECP/OPSD).
   3.3 Hydro Ottawa subterranean clearance tracking for underground electrical conduit feeds.
4.0 STORMWATER MANAGEMENT & GRADIENT CONTROLS
   4.1 Runoff insulation strategy across multi-tier roof surfaces (Flat dwelling rooflines vs. Garage roof decks).
   4.2 Center-swale or reverse-slope driveway engineering within the 20-foot laneway side yard to guarantee zero stormwater shedding onto adjacent properties.
   4.3 On-site infiltration and retention design within the remaining 29-foot backyard setback space.
5.0 EMERGENCY SERVICES ACCESSIBILITY
   5.1 Clearance evaluations for Ottawa Fire Services utilizing the 6.77m / 8.27m access corridor.
   5.2 Firefighter walking Path of Travel compliance across the wide 20-foot laneway setback.
   5.3 Total hose lay calculations tracking the 171-foot structural run to ensure compliance under the 90m OBC limit.
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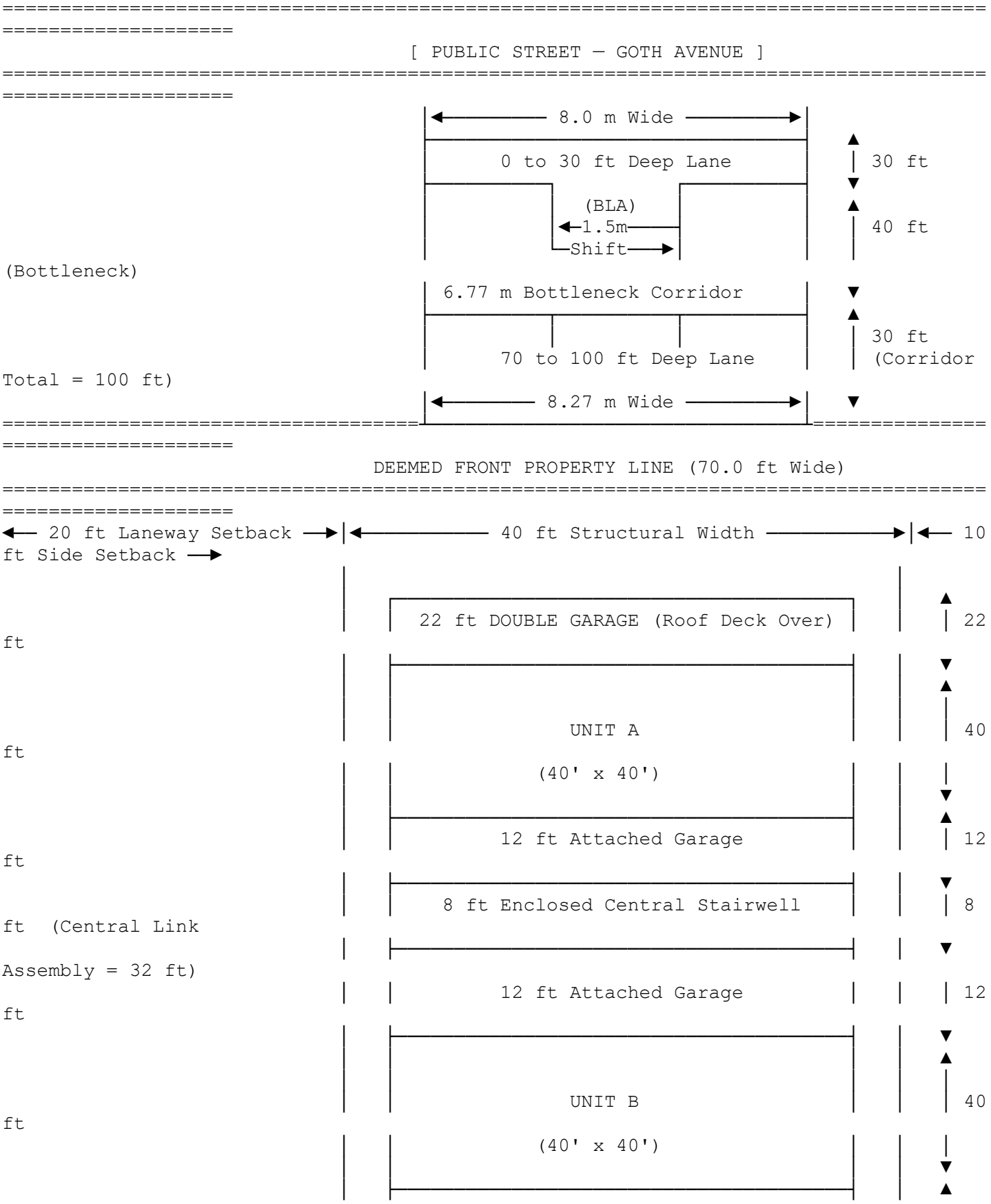
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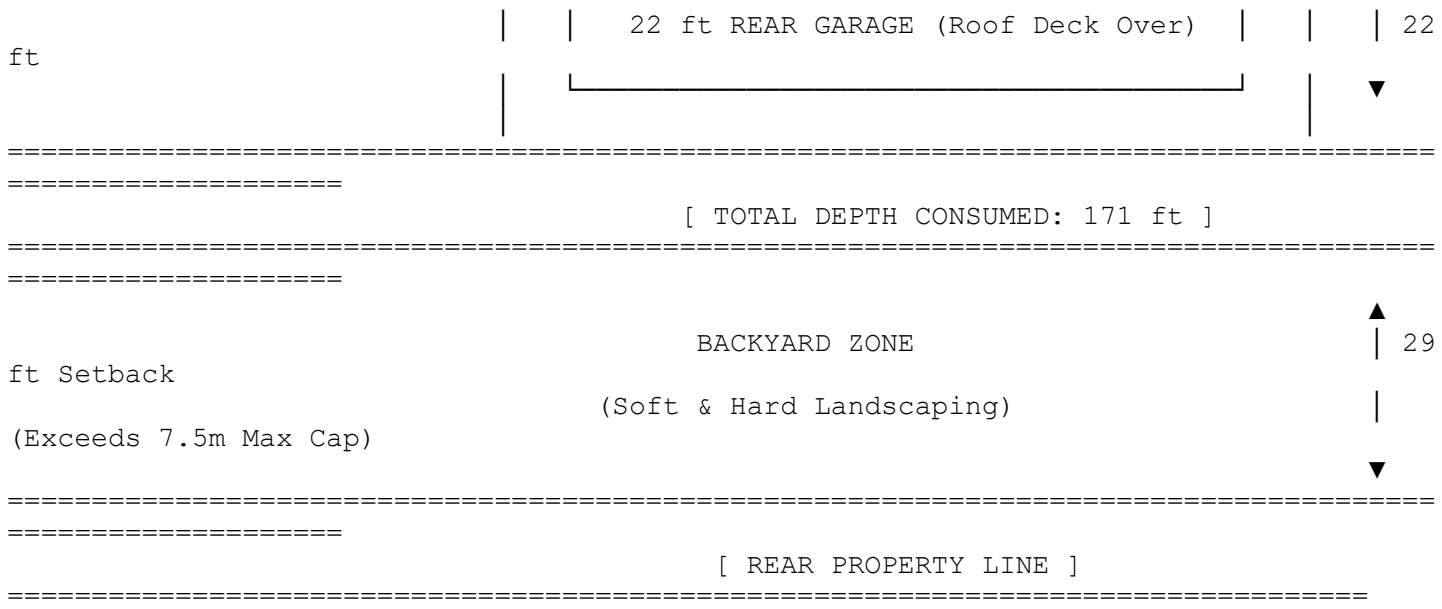
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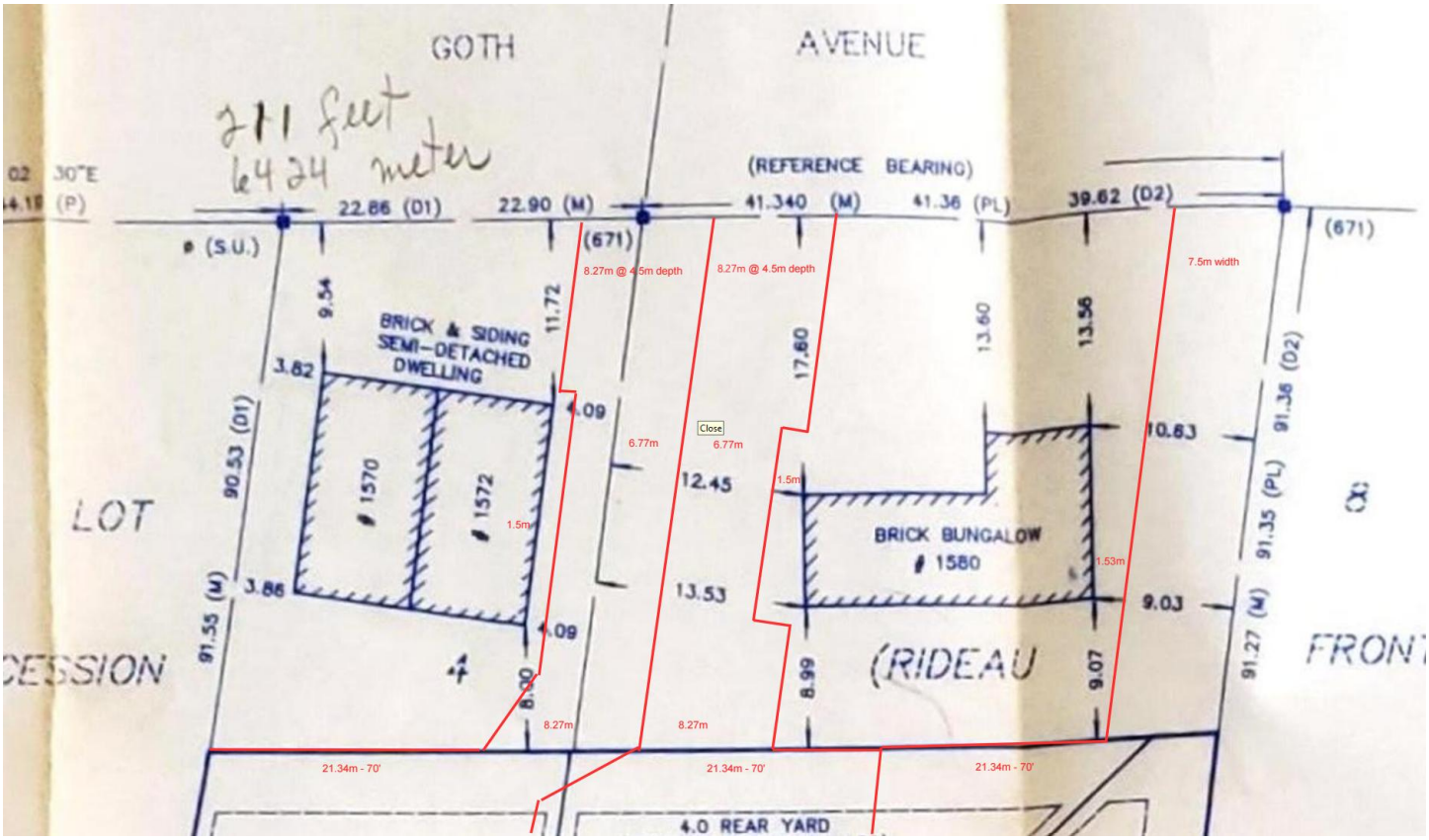
5. Technical Site Layout Diagram

This schematic represents the exact structural footprints, setbacks, corridor dimensions, and stepped lot configurations governing the development site plan at 1570-1572 Goth Avenue:

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22 ft REAR GARAGE (Roof Deck Over)
22 ft
[TOTAL DEPTH CONSUMED: 171 ft]
BACKYARD ZONE
(Soft & Hard Landscaping)
29 ft Setback
(Exceeds 7.5m Max Cap)
[REAR PROPERTY LINE]



Distance between buildings 12.45 m + 4.08 m = 16.54 m

Minimum lot width N2B zone 7.5 m x 2 = 15 m

Minimum side yard setback .6 m x 2 = 1.2 m

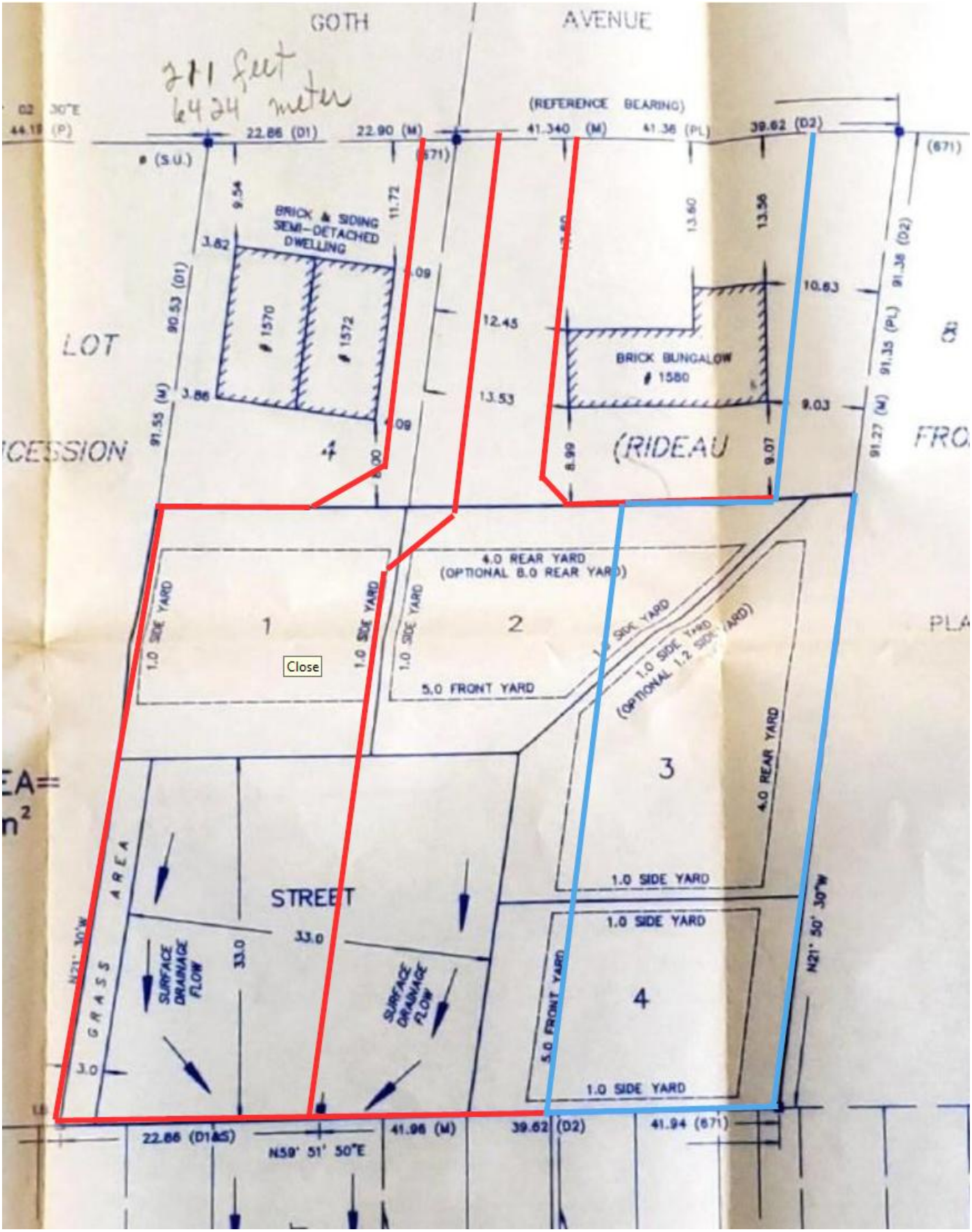
Lot width required (15 m) + setbacks required (1.2 m) = 16.2 m **surplus .32 m**

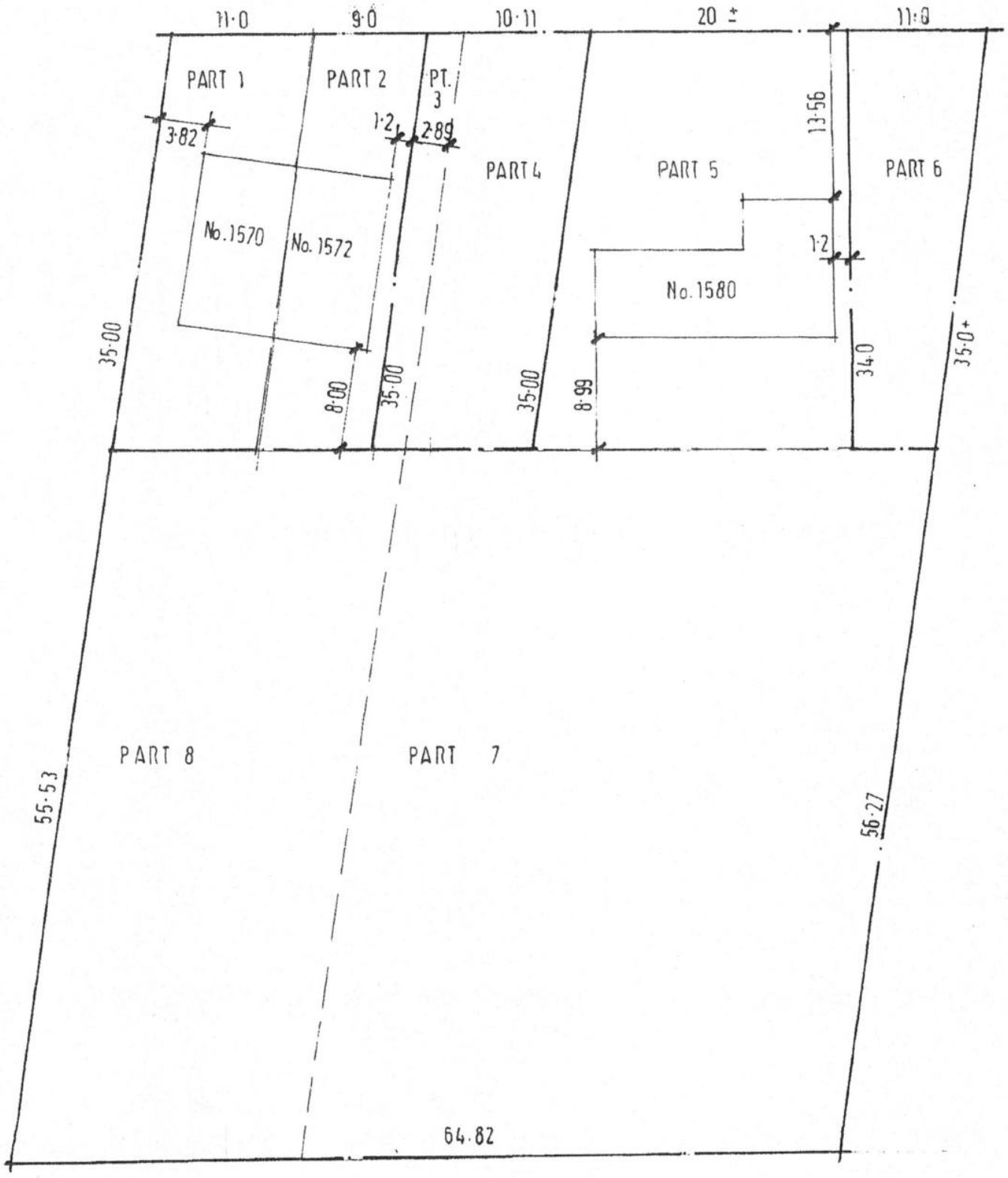
3 new lots created, and a lot line adjustment

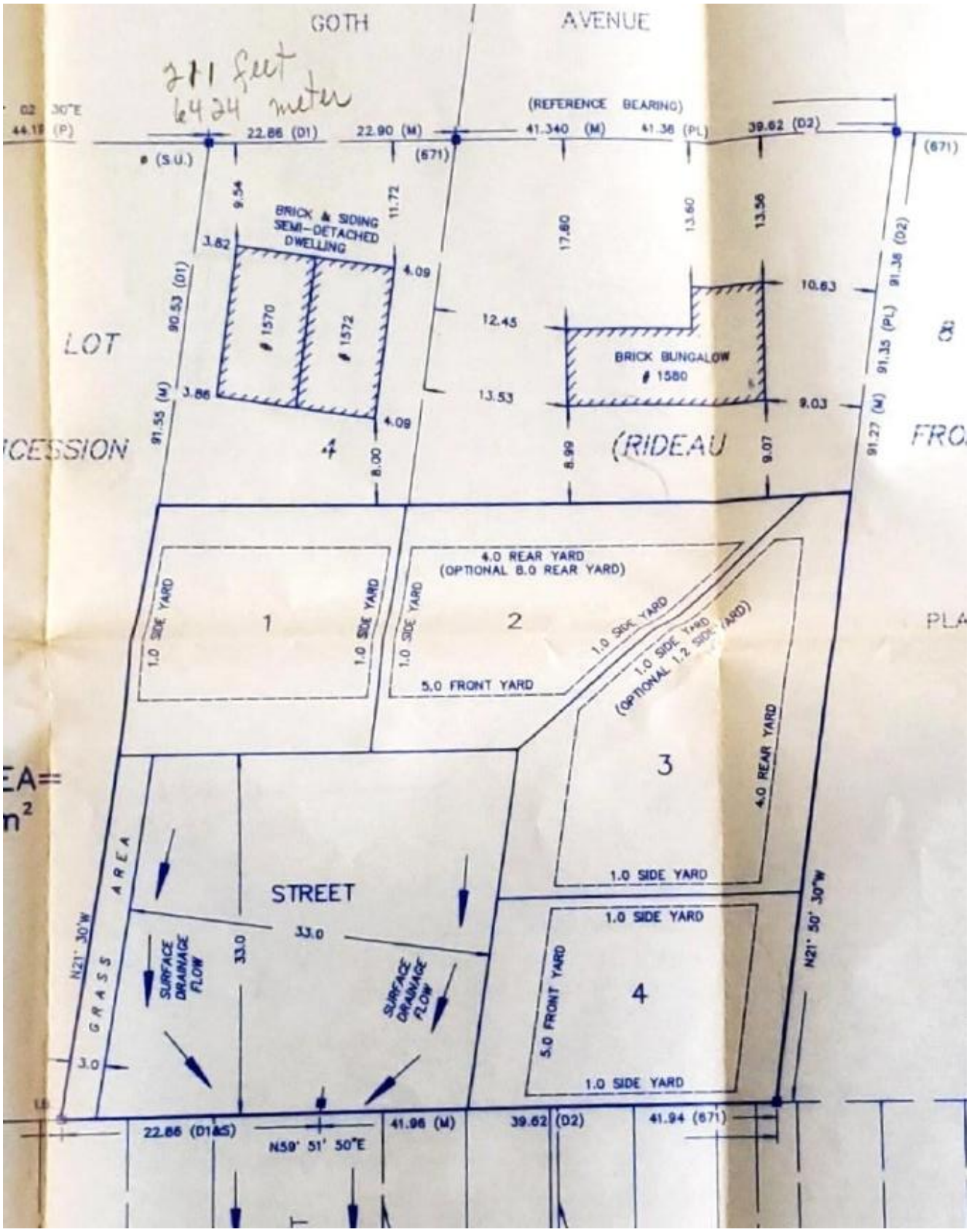
Back lots are 70' x 200'

Front 100' will be used for laneways and services, no buildings

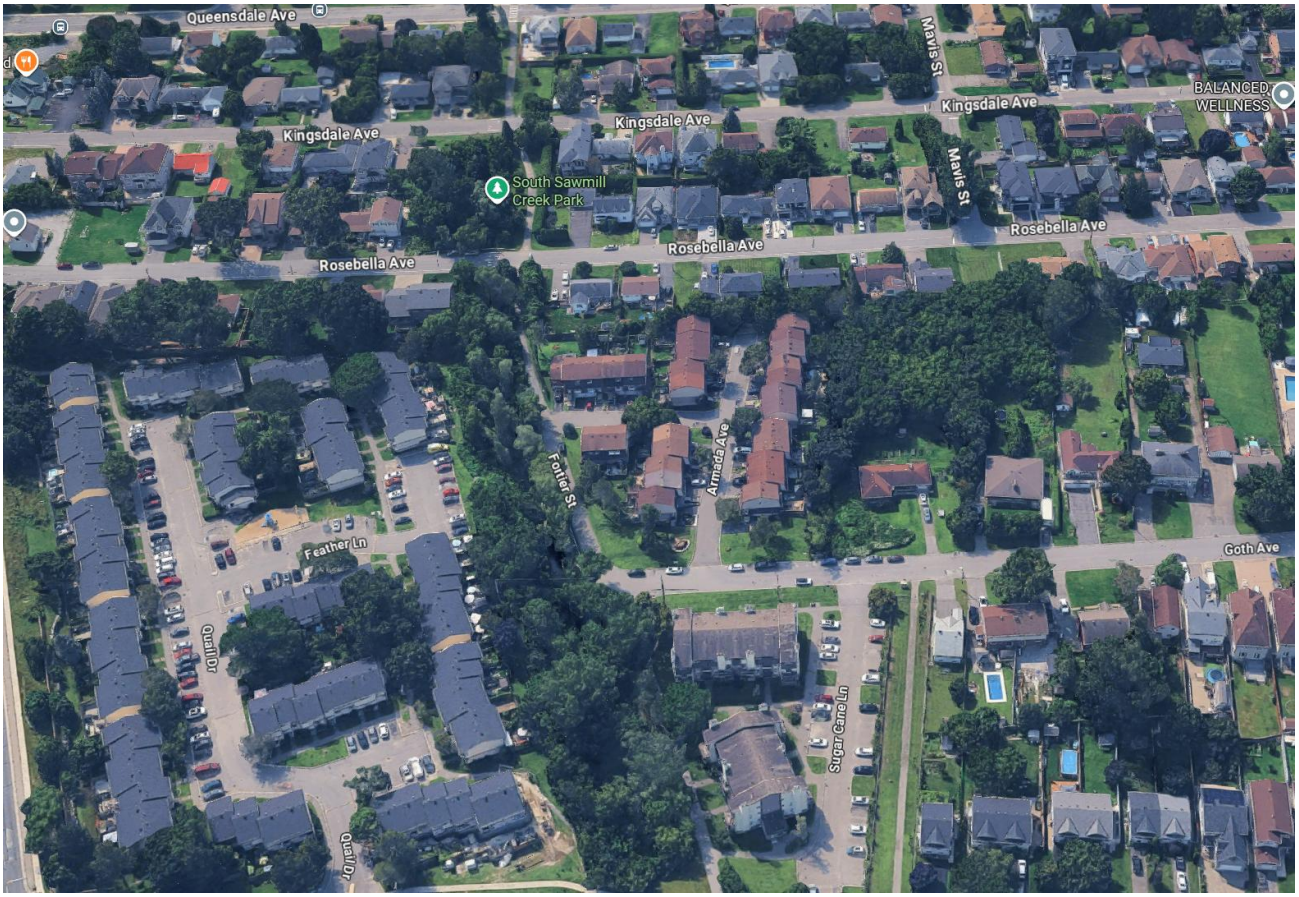
Each of the 3 lots will have the same proposed building plan


GOTH
AVENUE
711 feet
6424 meter
(REFERENCE BEARING)
22.86 (D1)
22.90 (M)
41.340 (M)
41.36 (PL)
39.62 (D2)
(671)
BRICK & SIDING
SEMI-DETACHED
DWELLING
1570
1572
BRICK BUNGALOW
1580
LOT
(RIDEAU
4.0 REAR YARD
(OPTIONAL 8.0 REAR YARD)
1.0 SIDE YARD
5.0 FRONT YARD
1.2 SIDE YARD
(OPTIONAL 1.2 SIDE YARD)
4.0 REAR YARD
1
2
3
4
STREET
33.0
GRASS AREA
SURFACE DRAINAGE FLOW
N21° 30'W
N21° 50' 30"W
N59° 51' 50"E
22.86 (D1&S)
41.96 (M)
41.94 (671)
Close


11·0
9·0
10·11
20 ±
11·0
PART 1
PART 2
PT. 3
PART 4
PART 5
PART 6
3·82
1·2
2·89
13·56
No. 1570
No. 1572
No. 1580
1·2
35·00
8·00
35·00
35·00
8·99
34·0
35·0±
PART 8
PART 7
55·53
56·27
64·82


GOTH AVENUE
711 feet
6424 meter
(REFERENCE BEARING)
22.86 (D1)
22.90 (M)
41.340 (M)
41.36 (PL)
39.62 (D2)
(671)
BRICK & SIDING SEMI-DETACHED DWELLING
1570
1572
BRICK BUNGALOW # 1580
LOT
(RIDEAU
1.0 SIDE YARD
4.0 REAR YARD (OPTIONAL 8.0 REAR YARD)
5.0 FRONT YARD
1.0 SIDE YARD (OPTIONAL 1.2 SIDE YARD)
4.0 REAR YARD
1.0 SIDE YARD
STREET
33.0
SURFACE DRAINAGE FLOW
GRASS AREA
5.0 FRONT YARD
N21° 30'W
N21° 50' 30"W
N59° 51' 50"E
22.86 (D1&S)
41.96 (M)
39.62 (D2)
41.94 (671)


Rosebella Ave


Queensdale Ave
Kingsdale Ave
Kingsdale Ave
Kingsdale Ave
Mavis St
Mavis St
BALANCED WELLNESS
South Sawmill Creek Park
Rosebella Ave
Rosebella Ave
Rosebella Ave
Forfar St
Armada Ave
Feather Ln
Goth Ave
Quail Dr
Quail Dr
Sugar Cane Ln




Triplex A
Triplex B
11'
11'
40'
12'
9'
12'
40'
11'
11'