

Yellowknife Condominium Corporation No. 61
102-103 Hagel Drive
Yellowknife, NT X1A 0G9

June 28, 2022

Development Appeal Board
c/o City Clerk's Office
City of Yellowknife
P.O. Box 580
Yellowknife, NT X1A 2N4
BY HAND

Re: Development Permit Application No. PL-2022-0075

This letter serves as an appeal to the above noted Development Permit Application number by Yellowknife Condominium Corporation No. 61 (103 Hagel Drive), representing four units and eight residents of Niven Lake Phase V.

As per Government of the Northwest Territories Community Planning and Development Act (2013), Division B – Appeals, 62 (1), this appeal is submitted on the grounds that we are adversely affected by the development, (a) there was a misapplication of a zoning bylaw in the approval of the application.

In principle we are not against the development, however the City of Yellowknife is lacking important data such that it would be irresponsible to allow this development to proceed prior to gathering the data and analyzing it in relation to this development.

Specifically, the only Traffic Impact Study completed for Niven Lake Phase V was done in 2012 (copy attached) when most of the roads and buildings didn't exist yet. In the 2012 Study the projection for 2022 saw a road existing as part of the Niven Lake Phase VIII development, extending Hagel Drive to loop around and connect to Moyle Drive allowing for two entry/exists from Niven Lake Phase V. Now, in 2022, no such connecting road exists, nor is it expected to be built, reducing the access for Niven Lake Phase V by road to one intersection which is on a curving road reducing visibility from one direction.

As Per City of Yellowknife Zoning By-law 5045 (March 14, 2022) section 4.4.4, when considering a development application, "The Development Officer may also require any of the following..."
"d) a traffic Impact analysis prepared by a qualified professional which shall address, but not be limited to, Impact on adjacent public roadways, pedestrian circulation on and off-Site, vehicular movement circulation on and off-Site, turning radius diagrams for large truck movement on and off-Site, and any other similar information required by the Development Officer;"

Additionally, as the City defines Density as “the maximum number of dwelling units permitted...based on lot area”, approving a Density of 70 units for this development exceeds the previously approved densities of 69 for the entirety of Lots 11 (49 units) and 12 (20 units) while the development in question is re-drawn lot lines (now referred to as Lot 31) that is the entirety of Lot 11 and only a portion of Lot 12. The allocation of 70 units where less than 69 would have been previously permitted appears to be an arbitrary decision to agree with what the developer requested.

Lastly, the floor plan design of the development shows that 56 of the 70 units are two-bedroom/two-bathroom units with the remaining 14 units being one-bedroom/one-bathroom units meaning the development’s intention is to have a *minimum* of 126 occupants in the building. Parking spot requirements by the City for 70 units is 56 parking spots, the developer is planning for 71 parking spots, exceeding City Zoning requirements.

Yellowknife residents own a lot of vehicles as well as seasonal vehicles and equipment such as campers, boats and snowmobiles and it can be reasonably expected that 126 occupants will own and need to park and plug in more than 71 vehicles. If the City is relying on street parking to accommodate the



potential 55 tenant vehicles not accommodated within the development’s parking lot, see the photo at right taken on June 25, 2022 demonstrating that currently, before 126 people are added to Hagel Drive, any available street parking is frequently already in use, sometimes bleeding onto Niven Drive.

Within the Development Permit Technical Review Report for this development, there is a recommendation that a Traffic Impact Study be completed AFTER this development is completed. Intentionally planning to collect important data after it is needed to make long-term development decisions about the area is backwards and a conscious decision to exclude critical data in evaluating a development proposal.

We realize that in this appeal we are simultaneously suggesting that there is inadequate parking for 126 occupants and that there will be too much traffic as currently approved, which makes the point that it would be irresponsible for the City of Yellowknife to allow this

development to proceed as currently presented without considering data from a current Traffic Impact Analysis.

This Appeal meets the Government of the Northwest Territories' Community Planning and Development Act Appeal Board Procedures, Evidence and Hearing notice as follows:

- (a) Reason for the Appeal - there was a misapplication of a zoning bylaw in the approval of the application.
- (b) Summary of fact supporting the reason – it is irresponsible that the Development Officer did not require a traffic Impact analysis be completed PRIOR to consideration and approving the development.
- (c) Relief Sought – that the City suspend this development approval until the data from a current Traffic Impact Analysis can be considered related to the City changing the Niven Lake Phase V lot configurations and changes to the original roadway/traffic projections for 2022 from the 2012 Traffic Impact Study
- (d) Filing Fee – a cheque for \$25 is attached to this appeal letter.

We are adversely affected by Development Permit Application No. PL-2022-0075 by the significantly increased number of vehicles that will be parking in the development's parking lot, the anticipated significantly inadequate amount of street parking for the anticipated number of vehicles for the development, and the movement of all of those vehicles through a single intersection access point that was not intended to handle this volume of traffic in the 2012 Traffic Impact Analysis.

We look forward to hearing from the Appeal Board within the required 30 days of this appeal being received.



André Corbeil
Secretary-Treasurer
Yellowknife Condominium Corporation No. 61

Residential Zones (R2)
Development Permit Technical Review Report
 Planning and Development Department, City of Yellowknife

Internal Review Doc



Permit # PL-2022-0075

Required Sign-Offs for all Development Permits:

Title	Technical Review Criteria	Date	Signature
Development Officer	All development permits requiring a review of site regulations	June 10, 2022	Vic Fontanilla
Peer Review (Planner)	All residential uses, discretions, and variances		
Manager, Planning & Lands	All residential uses, discretions, and variances		<i>Not applicable this time N/A</i>
Director, Planning & Development	Multi-unit (> 4 units) dwellings, discretions, variances, and conditionally permitted uses	<i>June 7/22</i>	<i>[Signature]</i>
Director or Manager, Public Works	Grading, site servicing, traffic, vehicular access, and new driveways	<i>June 6/22</i>	<i>email</i>

Development Permit Application Recommendation:

Decision	Further explanation including reasons and conditions to be met
Approve with conditions	<ol style="list-style-type: none"> 1. The Development shall comply with all stamped approved plans and with the executed Development Agreement; 2. Landscaping and hardscaping shall be completed by September 30th, 2024 and maintained for the life of the development, as indicated in the stamped approved plans and Development Agreement; 3. Plants used for landscaping shall be of capable healthy growth in Yellowknife, grown from northern stock, with certification that the plants are grown north of 54 degrees latitude; 4. A Surveyor's Real Property Report shall be submitted to the City prior to occupancy. The Real Property Report must indicate i) all permanent features on site and ii) finished grades at all corners of the lot and buildings and periodic grades every 20m; 5. The property owner is responsible for freeze protection of water lines during construction; 6. Outdoor lighting on the proposed development shall be sufficient only to provide for safety, security, display or attraction for any development shall be arranged so that no direct rays of light are projected to adjacent properties or interfere with the effectiveness of

Residential Zones (R2)
Development Permit Technical Review Report
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	<p>any traffic control device;</p> <p>7. The Developer shall delineate all parking spaces on the property and install on-site signs;</p> <p>8. The Developer shall delineate and identify with visual indicators a minimum of 3 accessible parking spaces on the property and 1 loading and unloading zone;</p> <p>9. The Developer shall install waste, compost and recycling bins with screening; and</p> <p>10. A Water Connect Permit will be required for the water and sewer services to each building. Permit application must include Plan and Profile drawings for the servicing that are signed and stamped by an Engineer registered with NAPEG. For information on the permit contact construction@yellowknife.ca.</p>
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Applicant Information:

Permit Number	PL-2022-0075					
Application Date	April 21, 2022					
Legal Description	Lot:	Portions of Lots 11 & 12	Block:	307	Plan:	4441
Zoning	R2 – Medium Density Residential. To provide an area for medium to higher Density residential Development					
Civic Address	No Address. It is on Hagel Drive near Cavo and Redcliff Condos					
Applicant Name	Milan Mrdjenovich					
Property Owner Name	507726 N.W.T. LTD					
Contact Telephone(s)	Home:		Work or Cell:	780-920 6315		
Email and/or Fax	milan@mrdjenovich.ca					

Development Permit Application Technical Review
(Regulated by Zoning By-law No. 5045)

Residential Zones (R2)
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 Planning and Development Department, City of Yellowknife



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1) Application Compliance:

Application Requirements	Submitted? (Please check ✓)		
	Yes	No	Waived or N/A
Site Planning			
All dimensions in metric	✓		
Location and dimensions of all existing structures or use	✓		
Location and dimensions of proposed structure or use	✓		
Setbacks (front, side, rear)	✓		
Lot lines	✓		
Street Names	✓		
Landscaping	✓		
Existing and proposed driveways	✓		
Drainage showing gradient	✓		
Location of outdoor fuel storage facilities	✓		
Location of any easements affecting the site	✓		
Form, mass, and character of development	✓		
Building façade and materials	✓		
Floor plan (except detached dwellings)	✓		
Elevation drawings and exterior dimensions	✓		
Grading (existing, proposed, spot elevations)	✓		
Confirmation of Services			
Services can be provided to proposed development	✓		
Proposed development does not infringe on easements	✓ there is a partial easement on the rear yard, but it does not impact the location of the building		
Satisfactory arrangement for supply of municipal services	✓		
Satisfactory arrangement for street access	✓		

2) Zoning Review

Using the requirements for the zone of the proposed development, describe the existing and proposed development. Include any additional information as required.

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Existing Development	Vacant lot
Proposed Development	A Multi-Unit building consisting of 70 units.
Permitted/Conditionally Permitted/Not Permitted?	Permitted
Surrounding Neighbourhood	Mix of R2 (high density), R2 (medium density), and R1 (low density) development
Proposed addresses comply with the Municipal Address By-law? (check with the Geomatics Officer)	No address assigned yet. Yes, will not have an issue assigning.

3) Site Regulations:

Regulations	Required	Proposed	% variance from required	
Lot width (<i>Section 10.2</i>)	15m	Ave. 60m	none	
Lot depth (<i>Section 10.2</i>)	<i>Not regulated</i>		n/a	
Maximum Site Area (<i>Section 10.2</i>)	9,000 sq.m. max.	5,870 sq.m. (and as per approved subdivision plan)	none	
Site coverage of principle/accessory building (<i>Section 10.2</i>)	55%	31.3% (1,841.75/5,870)	none	
Building height (<i>Section 10.2</i>)	15m	14.46m	none	
		at Bldg. Corner. ref. dwg. no. A1-003		FG: Finished Ground (m)
		1		177.00
		2		175.85
		3		176.20
		4		175.55
		1. Average Ground Elevation		176.15
		2. Main Floor level		177.50m

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		3. Top of the Parapet wall, the highest level 4. Building Height (190.61m-176.15m)	190.61m 14.46m	
Front yard setback (Section 10.2)	1m	4.8m		
Side yard setback (Section 10.2) (unenclosed deck overhangs-protrudes by 0.4m into the required min. setback; max. allowed protrusion is 1.2m; see also definition of "projection")	3m	3.13m		none
Rear yard setback (Section 10.2)	6m	6.06m & 12m		none
Off-street parking (Type B-2.6m x 5.6m) (Section 7.8.4 Multi-Unit Dwelling (10 units or more)= 0.8 per Dwelling Unit and no more than 2 per Dwelling Unit)	56 stalls	67		Proposed is more than what is required
Off-Street Loading Spaces (Section 7.8.12 at least one space for 15 units or more)	1 space	1 space, 3m x 9m		none
Accessible Parking Space-handicapped (Section 7.8.5 Accessible Parking Space Requirements a) A minimum of 1 Type "A" Parking Space shall be provided for every 20 Parking Spaces (Type A-4m x 5.6m)	56/20=2.8 spaces Or 70/20=3.5 spaces (7.8.2(c) rounded down	3 spaces, 4m x 5.6m <i>71 total</i>		none

4) Landscaping:



Formula for Calculation	Result
Zone landscaping requirement	A minimum 100% of the Residual Area shall be Landscaped.
Residual area = Total site area – Developed site area	5,861 m ² -4,669 m ² = 1,192 m ²
Required trees = Residual area / 25 m ²	48
Required Shrubs = Residual area / 12.5 m ²	

Landscaping	Required	Proposed																																																																	
Landscaped area (m ²)																																																																			
Number of trees	48	48																																																																	
Shrubbery	95	95																																																																	
Landscaped area (m ²); specs as per Dwg.no. A1-004	1,192 m ²	1,192 m ²																																																																	
General Landscaping Requirements																																																																			
<p><i>Section 7.5.4 Landscape Plan Requirements</i></p> <p>a) n/a</p> <p>b) Where a Landscape area is 500 m² or greater is required, a detailed Landscape plan prepared by a landscape architect or landscape technologist shall be submitted with the application for Development in compliance with the Landscaping regulations specified in this By-law, which shall include the lands proposed for Development as well as municipal reserves.</p> <p>c) The detailed Landscape plan (or Site plan) shall be prepared in accordance with the <u>City's Development Standards</u>.</p> <p><i>Section 7.5.3 R2</i></p> <p>i. A minimum 100% of the Residual Area shall be Landscaped.</p> <p>ii. Required Landscape areas must be covered with either seed/sod, mulch beds, paving stones, walkways, Amenity Spaces, raised planters or other Landscaping materials.</p> <p>iii. Retention and preservation of existing natural vegetation and bedrock is encouraged.</p>																																																																			
<p style="text-align: center;">Proposed</p> <table border="1" style="width: 100%;"> <thead> <tr> <th colspan="5">TREES</th> </tr> <tr> <th>SYMBOL</th> <th>BOTANICAL NAME</th> <th>COMMON NAME</th> <th>SPREAD (meters)</th> <th>NO.</th> </tr> </thead> <tbody> <tr> <td colspan="5" style="text-align: center;">DECIDUOUS TREES</td> </tr> <tr> <td></td> <td>PRUNUS AERUGINOSA</td> <td>SHADBLOW</td> <td>3.6m x 6m</td> <td>18</td> </tr> <tr> <td></td> <td>FRAXINUS EUROPAEA</td> <td>ASH</td> <td>3.6m x 6m</td> <td>18</td> </tr> <tr> <td colspan="5" style="text-align: center;">ETERNAL TREES</td> </tr> <tr> <td></td> <td>LARIX LARicina</td> <td>SPRUCE</td> <td>6m x 20m</td> <td>12</td> </tr> </tbody> </table> <table border="1" style="width: 100%;"> <thead> <tr> <th colspan="5">SHRUBS</th> </tr> <tr> <th>SYMBOL</th> <th>BOTANICAL NAME</th> <th>COMMON NAME</th> <th>SPREAD (meters)</th> <th>NO.</th> </tr> </thead> <tbody> <tr> <td></td> <td>PRUNUS AERUGINOSA</td> <td>SHADBLOW</td> <td>2.4m x 2.4m</td> <td>36</td> </tr> <tr> <td></td> <td>SPYRUS AERUGINOSA</td> <td>SHADBLOW</td> <td>2.4m x 2.4m</td> <td>36</td> </tr> <tr> <td></td> <td>SPYRUS AERUGINOSA</td> <td>SHADBLOW</td> <td>1.5m x 1.5m</td> <td>144</td> </tr> <tr> <td></td> <td>FRAXINUS EUROPAEA</td> <td>ASH</td> <td>1.5m x 1.5m</td> <td>144</td> </tr> </tbody> </table> <p><small>All shrub beds to be covered with 10-12cm of fibrous washed rock or mulch with 5.0cm weed fabric with woven fabric or fabric (B.S. 2888) over woven geotextile fabric. All plant material shall meet the horticultural standards of the most current edition of the "Code Specifications for Nursery Stock" published by the Canadian Nursery Trade Association. All plants shall be suitable for the specific application and hardy to the region and actual site conditions. The most current edition of the "Tree Nomenclature Guide" shall be used as reference.</small></p>			TREES					SYMBOL	BOTANICAL NAME	COMMON NAME	SPREAD (meters)	NO.	DECIDUOUS TREES						PRUNUS AERUGINOSA	SHADBLOW	3.6m x 6m	18		FRAXINUS EUROPAEA	ASH	3.6m x 6m	18	ETERNAL TREES						LARIX LARicina	SPRUCE	6m x 20m	12	SHRUBS					SYMBOL	BOTANICAL NAME	COMMON NAME	SPREAD (meters)	NO.		PRUNUS AERUGINOSA	SHADBLOW	2.4m x 2.4m	36		SPYRUS AERUGINOSA	SHADBLOW	2.4m x 2.4m	36		SPYRUS AERUGINOSA	SHADBLOW	1.5m x 1.5m	144		FRAXINUS EUROPAEA	ASH	1.5m x 1.5m	144
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5) Vehicular Access and On-Site Traffic:

Requirements	Yes	No	N/A
Grade of parking area or driveway is not greater than 8%	✓		
At street intersections, driveways are set back from lot boundaries to ensure safety and efficiency of existing or planned traffic volumes	✓		

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Driveways are separated by necessary distance to ensure safety and efficiency of existing or planned traffic volumes	✓		
Queuing of vehicles does not impact public roadways and will be designed to enhance on-site vehicular circulation and parking.	✓	Required a Stop sign to each exit points	
Driveways and on-site parking have positive surface drainage to the roadway	✓		

6) **Variance(s):** No Variance, Not applicable

7) Analysis:

Provide your analysis, using the City’s regulatory documents, of the following issues (use additional pages if required). Include variances, alternatives to requirements, recommendations, justifications, and any other pertinent information.

Drainage and grading	-Drainage and grading complies with Zoning By-law requirements and Development & Design Standard Policy. ZBL Section 7.1.2. Proposed Development shall incorporate proper Lot surface drainage so that the removal of surface waters will not adversely affect adjacent properties or the public storm drainage system. - In Reviewed by City of Yellowknife Public Works & Engineering - Reviewed by City of Yellowknife Public Works & Engineering.
Landscaping (Soft and Hard)	Complies with Zoning By-law Section 7.5.3 requirements and Development & Design Standard Policy Section 9. See breakdown above and approved landscaping dwg. no. A1-004.
Parking and driveways	Parking minimums are met.
Architecture	Not a Zoning By-law requirement. However, comments on the building design: The main floor-1 st floor of the building is wheelchair-accessible and with service elevator. The roof is flat with parapet wall around. The building has recessed exterior walls and a balcony on each unit. The overall length of the building is 83m (272 feet) facing southwest, with exterior wall finish colour break every 9.75 m(32ft.).



Design standards

There is no Design Guidelines in the R2 zone where the subject property is located.

Site development

The proposed development is on the north end of Hagel Drive and the north edge of Niven Phase 5 adjacent to a green space PR and NA zones; it will include walking-connection to existing Niven trail networks.

The proposed 4-Story Apartment building is oriented to the southwest with broad spatial separations between the closest portion of the building against the adjacent existing and future buildings, ranging from 32m to 45 m.

Land Development: The Niven Phase 5 subdivision has been in the development phase for over two decades due to the insolvency of Bond Street Ventures in early 2000, the distressed sale to Nova Developments, and the City’s repurchasing of lots in 2012. Recently, the City re-subdivided the remaining lots (see preliminary survey plan) to eliminate notable site constraints, such as the City’s Lift Station that was part of Lot 12 and Hagel Dr. without a turnaround. As a result, Lots 31 to 35 and Lot 142 were created. Lot 35 will be designated as PR. Lot 31 was sold to 507726 NWT LTD. The sale of Lot 31 and other Lots that may finally be sold and developed is the best option to solve the long-standing undeveloped and unsightly construction zone.

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Variance(s)	No Variance
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**Other
(explain):**

2019 Community Plan:

A review of relevant policies contained within Community Plan have been reviewed as a part of this plan examination. The intent of all relevant policies have been met.

Section 4.5 Niven Residential

Niven, as identified on the Niven Residential Land Use Designation Map (Map 8), is a residential area that is located adjacent to the downtown core and provides easy access to the core of the City by vehicle and alternative transportation modes. It will continue to be a mix of low, medium and **high density** residential uses.

Area Development Plan (Scheme):

On February 28, 2004, Council adopted The Development Scheme 2004, By-law No. 4339. As a result, Niven Phase 5 was designated as Medium Density Residential.

Zoning By-law no. 5045:

The subject property is within zone R2 – Medium Density Residential.
The purpose of the zone is to provide an area for medium to **higher Density** residential Development that encourages a mix of Dwelling types and compatible Uses.

Density:

The initial Development Permit for the site under Bond Street Properties Ltd. was for 92 units based upon public concerns of over-densification. The subject lands however were zoned R3 – Medium Density Residential, permitting one unit per 125m² of land. The density condition with Bond Street Properties Ltd. was established within the sales agreement and not as a zoning overlay. In May 2016 Council adopted a motion to increase the density and re-subdivision (re-parceling). The City prescribed a revised density of 181 units. However with a total area of 28,348 m² the Phase 5- R3 zone would have **permitted 230 units**.



Niven Phase 5 - Density

Parcel	Land Area (sq.m.)	Proposed Max. Density based on January 2012 appraisal from Stewart Weir McDonald	May 9, 2016 Council Approved Revised Density	As of 2022-Developed Units	Estimate at Full Build Out	Remarks
A (Lots 116,123,109)	9,602	76 units	76	56	71	
B (Lot 94)	3,949	14 units	20	14	20	
C (Lot 11)	3,371	14 units	20	0	12	less PR area
D (Lot 12) now is Lot 31 new Preliminary Survey	6,098	48 units	49	0	70	Nova PL-2022-0075, on portions of Lot 12 & 11
E	5,328	16 units	16	16	16	
Total	28,348	168 units	181	86	189	

Notes:

1. ZBL 4404, as amended would have permitted 230 units using the density formula of 125 sq.m. per unit.
2. Parcel D (using Lot 31 land area of 5,870 sq.m.) would have permitted 46 units only as the Lift



Station Lot was excluded.

3. ZBL 5045 adopted by Council in March 2022, removed the density regulations.

4. Not Developable Areas for Dwelling Units:

Lift Station Lot = 791 sq.m.

Park Lot = 501 sq.m.

Turnaround half bulb= 419 sq.m.

Traffic Impact Analysis (2012 CTS Report):

Conclusions:

1) Currently, there are five proposed parcel sites for the Phase V development, which is proposed to consist of up to 156 residential dwelling units in total comprised of Parcel A (64 units), Parcel B (14 units), Parcel C (14 units), Parcel D (48 units), and Parcel E (16 units). For the purposes of this study, it was assumed that all five parcels would be constructed and fully occupied by the year 2017.

2) The five parcels combined are estimated to generate a total of 73 vehicle trips during the weekday morning in peak hour (i.e. 12 inbound and 61 outbound) and 84 vehicle trips during the weekday afternoon in peak hour (i.e. 53 inbound and 28 outbound). This is equivalent to an average of 1.4 vehicle movements per minute during the busier afternoon peak hour, which from a traffic engineering point of view is not considered significant.

3) The traffic impact assessment determined that by the year 2022 (i.e. 5 years post buildout), separate left and right turning lanes will be warranted on Niven Gate at Highway 4. As well, the west approach of the intersection of Franklin Avenue & 43rd Street will need to be restriped to provide for separate eastbound left and right turn lanes by the year 2022.

Recommendations

Based on the findings of this study, the following is recommended:

1) That City of Yellowknife monitor traffic volumes at the intersection of Franklin Avenue & 43rd Street to determine when restriping of the east approach is required to provide for separate left and right turn lanes on 43rd Street.

2) That the Northwest Territorial Department of Transportation and the City of Yellowknife monitor the intersection of Highway 4 & Niven Gate to determine when Niven Gate should be widened to provide for separate westbound left and right turn lanes.



Development Officer Comments:

The TIA recommends that in 2022 after a five-year post-buildout of 156 units, separate left and right turning lanes will be necessary on Niven Gate at Highway 4 and the intersection of Franklin Avenue and 43rd Street.

To date, there were only 86 units developed and built. Assuming the proposed 70 units will be completed in 2 years in 2024, there will be a total of 156 units, equal to the number of units used in the study. The Niven entrance was widened in 2016 as per CTS recommendation, while the intersection of Franklin Avenue and 43rd Street remains unchanged. I recommend that the City conduct a new TIA for the whole Niven subdivision within 3 to 4 years to update the Franklin Avenue & 43rd Street situation as the new Zoning By-law 5045 has no more density requirements. In addition, there are multi-units currently under construction in other Phases, and it is expected to have more and including in Phase 5.

Sun Shadow Analysis:

Three dates of the year were selected for shadow verification, and none will affect the neighbouring residential properties.

The Proposed building casting shadows:

- On June 21 at 12 noon by 13m towards North
- On September 21 at 12 noon by 25m towards North
- On December 21 at 12 noon by 195m towards North

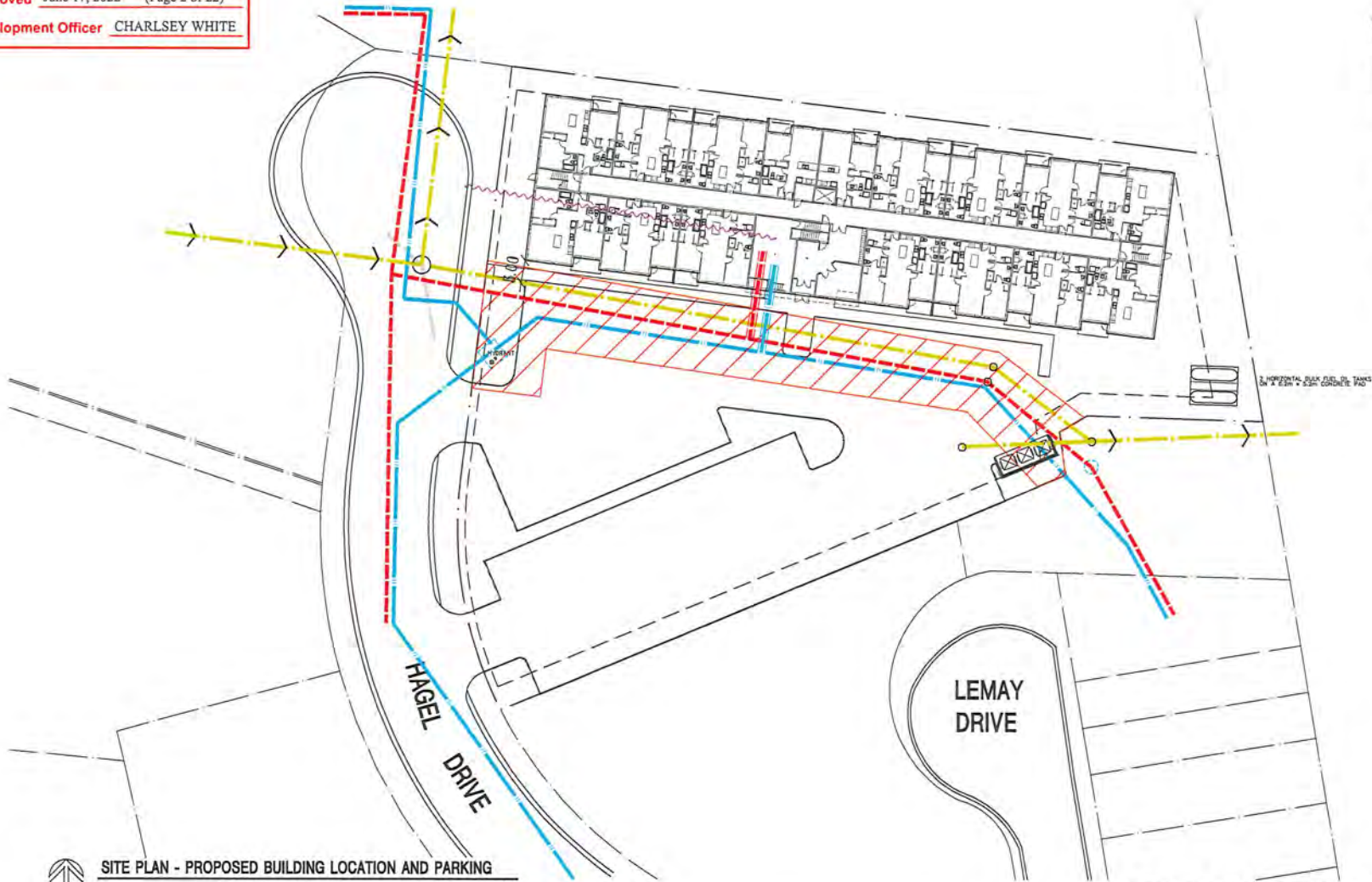
Peak (height) of the Proposed Building Compared to Neighborhood Buildings :

The proposed building roof peak is significantly lower than the neighbourhood buildings. And compared to the internal policy site specific factor that the height of any proposed structure shall not exceed 193.7m- CGVD2013 (194 m vertical datum 1928) above sea level to ensure appropriate relationships with adjacent land.

Property	Storey	Roof Peak Elevation (Above Sea Level CGVD2013)
Proposed 70 Units-The View Apt.	4	190.6
Cavo Condominium-56 Units	3	193.7
Redcliff-Lemay, Units 13 to 16	3	192.7
Redcliff-Lemay, Units 1 to 4	3	193.2
Redcliff-Hagel Condos, Lot 138 Block 308	2	191.2
Lot 64 Block 308, 5 McMagoon	2	202.5
Lot 100 Block 308, 7B McMagoon	2	201.4



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 Development Permit # PL-2022-0075
 Approved June 17, 2022 (Page 2 of 22)
 Development Officer CHARLSEY WHITE



SITE DATA

LOT A, BLOCK 307	5,861 SQ.M. = 63,087 SQ.FT.
SITE AREA:	
PROPOSED BLDG. 1 (4 STONEY 70 ROOM APARTMENT FOR RENT)	
14 - ONE BEDROOM UNITS	
56 - TWO BEDROOM UNITS	
SITE COVERAGE:	
FOUNDATION FOOTPRINT	1,879 SQ.M. = 20,384 SQ.FT.
MAIN FLOOR COVERAGE	1,775 SQ.M. = 19,113 SQ.FT.
TOTAL BUILDING AREA	7,094 SQ.M. = 76,377 SQ.FT.
PROPOSED FLOOR AREA RATIO	1.204/5.861 = 1.210
PROPOSED SITE COVERAGE	1,819/5,861 = 31.0%

LEGEND

DISTING WATER LINE	— (Blue dashed line)
PROPOSED WATER LINE	— (Blue solid line)
DISTING STORM	— (Yellow dashed line)
PROPOSED SANITARY	— (Red dashed line)
DISTING SANITARY	— (Red solid line)
PROPOSED ELECTRICAL CONNECTION	— (Purple dashed line)

SITE PLAN - PROPOSED BUILDING LOCATION AND PARKING
 1:250

NOTE:
 The applicant shall obtain and verify all dimensions and notes and shall ensure that all dimensions and notes are correct. The applicant shall ensure that all dimensions and notes are correct. The applicant shall ensure that all dimensions and notes are correct.

CONSULTANT: _____

SEAL: _____

ISSUE: _____

#202, 11121-156 ST., EDMONTON, ALBERTA T5M 1X9

**WILLIAM
 RUTLEDGE
 ARCHITECT**

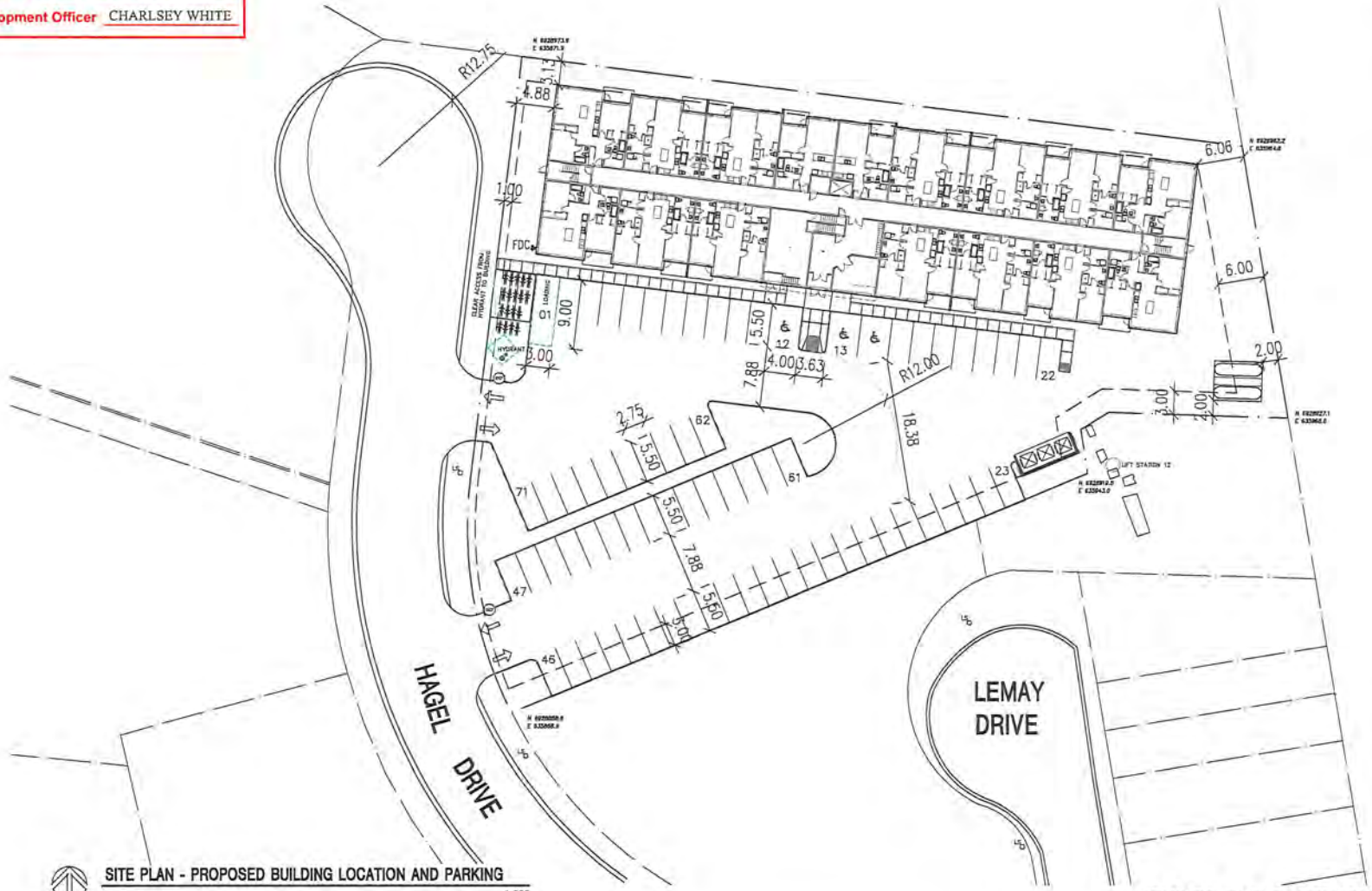
REVISED FOR DEVELOPMENT PERMIT JUNE 7, 2022

PROJECT:
**THE VIEW APARTMENTS
 PHASE 5 - NIVEN LAKE
 LOT A, BLOCK 307, PLAN 4441
 YELLOWKNIFE N.W.T.**

DWG:
A1-001
 JOB NO: 21-0400

TEL: 1-780-454-3422 FAX: 1-780-482-2921

City of Yellowknife
 Development Permit # PL-2022-0075
 Approved June 17, 2022 (Page 3 of 22)
 Development Officer CHARLSEY WHITE



SITE DATA

LOT A, BLOCK 307
 SITE AREA: 5,887 SQ.M. = 53,087 SQ.FT.
 PROPOSED BLDG. 1 (6 STOREY 70 ROOM APARTMENT FOR RENT)
 14 - ONE BEDROOM UNITS
 56 - TWO BEDROOM UNITS

SITE COVERAGE:
 FOUNDATION FOOTPRINT 1,819 SQ.M. = 15,584 SQ.FT.
 MAIN FLOOR COVERAGE 1,775 SQ.M. = 15,512 SQ.FT.
 TOTAL BUILDING AREA 7,294 SQ.M. = 76,377 SQ.FT.
 PROPOSED FLOOR AREA RATIO 1,254/5,887 = 1.219
 PROPOSED SITE COVERAGE 1,819/5,887 = 30.9%

PARKING DATA

REQUIRED PARKING - ONE PER UNIT (70 STALLS)
 PROVIDED PARKING - 73 STALLS (ONE LOADING)
 REQUIRED BARRIER-FREE - 1 FOR EVERY 20 STALLS (3 STALLS)

STALL SIZE OVER 800MM AT 2.70M WIDE X 5.50M LONG
 BARRIER FREE STALLS AT 4.00M WIDE X 5.50M LONG

REQUIRED BICYCLE PARKING - 1 PER 2 UNITS (35 SPACES)
 PROVIDED BICYCLE PARKING - 36 SPACES

SITE PLAN - PROPOSED BUILDING LOCATION AND PARKING
 1:250

REVISED FOR DEVELOPMENT PERMIT JUNE 13, 2022

NOTE
 The architect shall check and verify all dimensions and measurements of materials shown on this drawing and with other drawings. Specifications and special conditions shall be indicated before proceeding. All work required with the permit of this work to be completed shall be with appropriate all drawings and permit shall not be property of the architect and must be returned to him at completion of the work.

CONSULTANT:

SEAL:

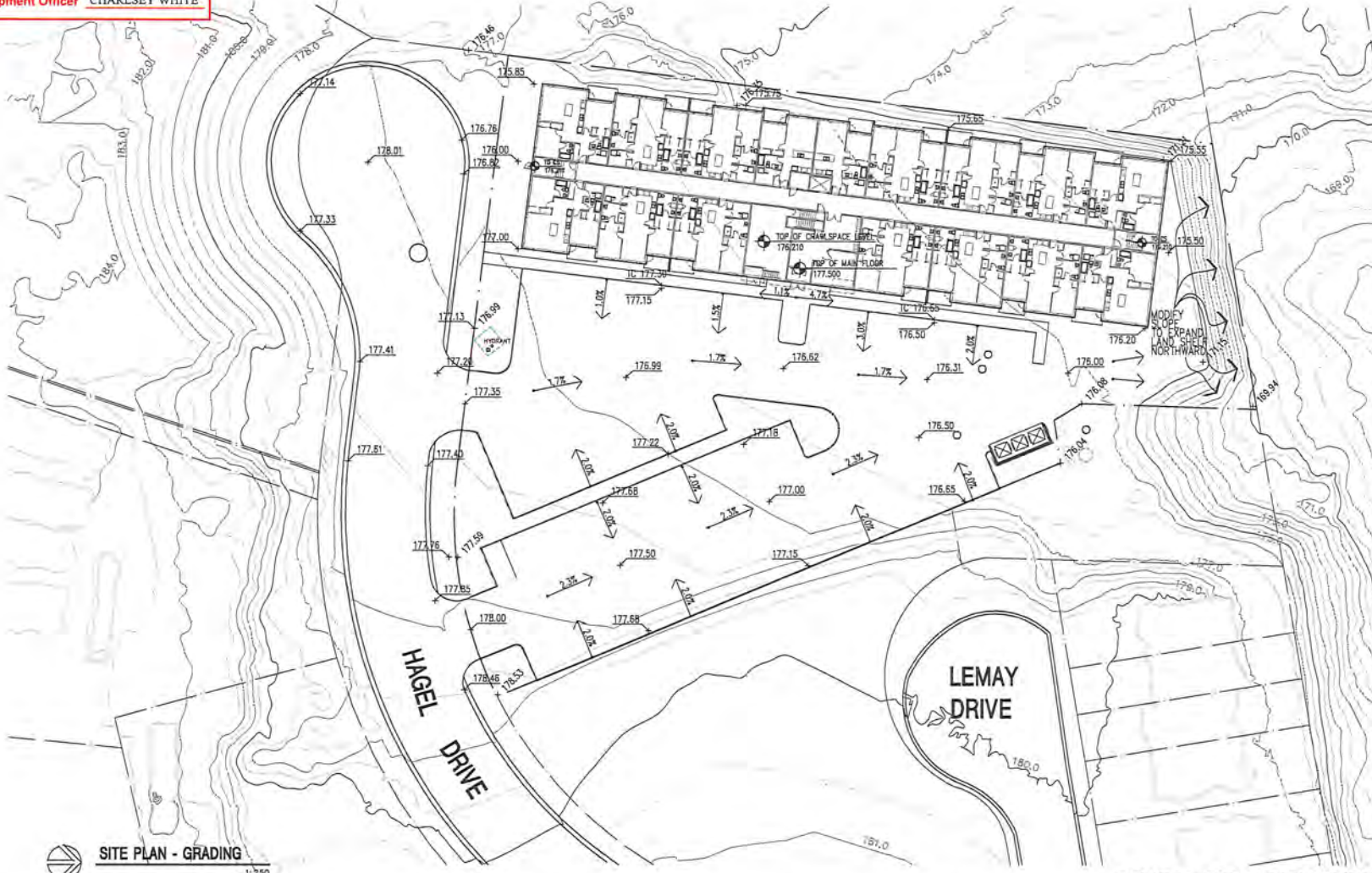
ISSUE:

WILLIAM RUTLEDGE ARCHITECT

PROJECT:
 THE VIEW APARTMENTS
 PHASE 5 - NIVEN LAKE
 LOT A, BLOCK 307, PLAN 4441
 YELLOWKNIFE N.W.T.

DWG:
 A1-002
 JOB NO: 21-0400

City of Yellowknife
 Development Permit # PL-2022-0075
 Approved June 17, 2022 (Page 4 of 22)
 Development Officer CHARLSEY WHITE



SITE DATA
 EXISTING ELEVATIONS BASED ON STANTEC'S GRADING PLAN
 DESIGN ELEVATION (FINISHED) +199.999
 SLOPE INDICATOR (SLOPES DOWN-UKW) →
 VERTICAL DATUM CGVD2013:CGG2013c

AVERAGE BUILDING HEIGHT
 THE MAIN FLOOR LEVEL IS SET AT 177.50 GEO. THE ROOF PARAPETS AT THE CORNERS OF THE BUILDING IS TO BE 15'-0" (13.11) ABOVE THE MAIN FLOOR AT 190.60 GEO.
 USING ONLY THE CORNERS OF THE BUILDING, WHICH ARE 177.28 + 176.89 + 175.55 + 176.20 = 704.92 / 4 = 176.23 GEO AVERAGE
 176.89 / 2 = 176.15 GEO AVERAGE

REVISED FOR DEVELOPMENT PERMIT JUNE 7, 2022

SITE PLAN - GRADING
 1:250

NOTE:
 The contractor shall obtain and verify all dimensions and measurements of existing structures on this drawing and site. After drawing, specifications and contract conditions have been reviewed, the client agrees to the contract before proceeding with the project. The contractor shall be responsible for their interpretation. All drawings and plans shall be returned to the architect at completion of the work.

CONSULTANT:

SEAL:

ISSUE:

**WILLIAM
 RUTLEDGE
 ARCHITECT**

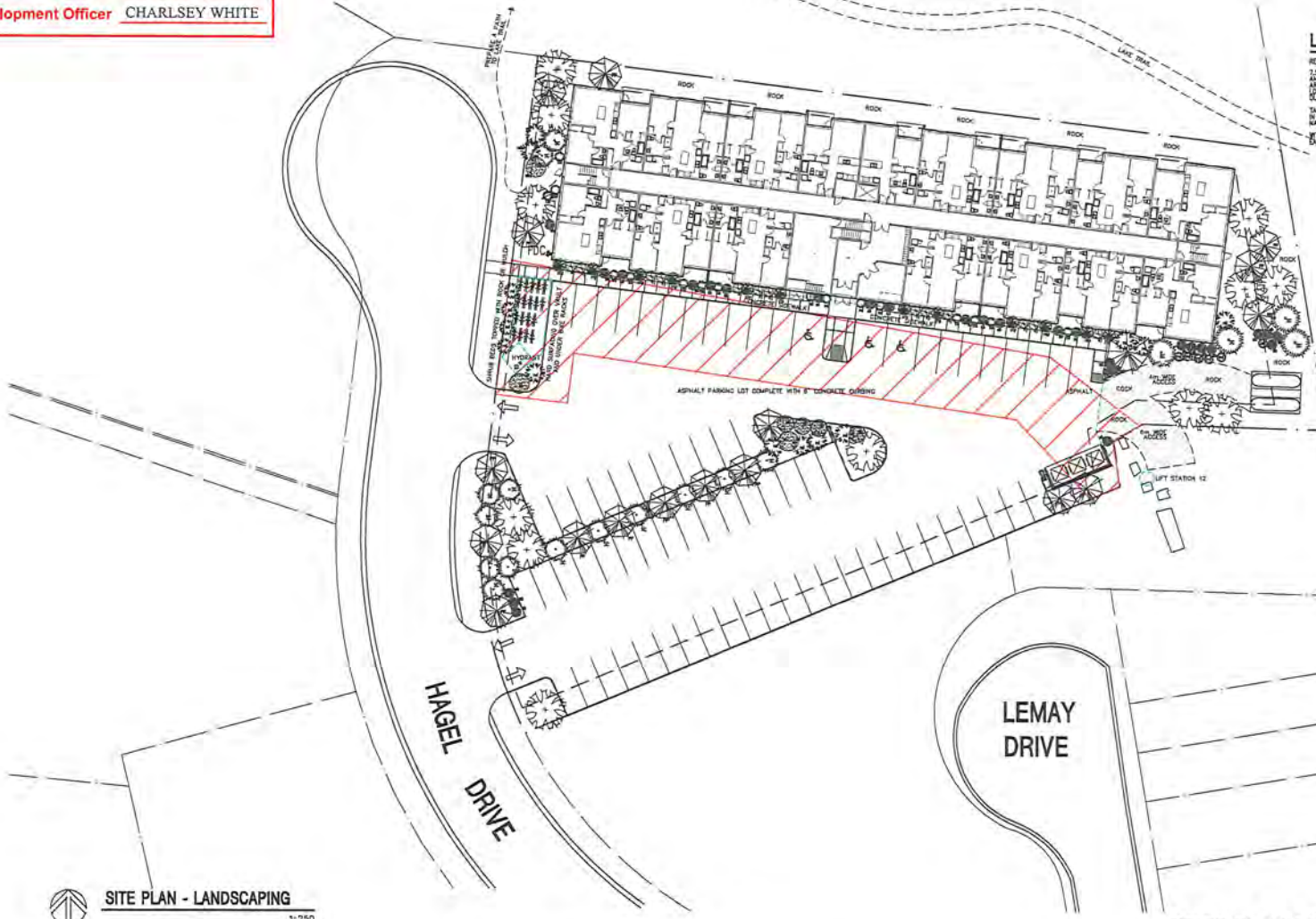
PROJECT:
**THE VIEW APARTMENTS
 PHASE 5 - NIVEN LAKE
 LOT A, BLOCK 307, PLAN 4441
 YELLOWKNIFE N.W.T.**

DWG.
A1-003
 JOB NO: 21-0400

#202, 11121-156 ST., EDMONTON, ALBERTA T5M 1X9

TEL: 1-780-454-3422 FAX: 1-780-492-2921

City of Yellowknife
 Development Permit # PL-2022-0075
 Approved June 17, 2022 (Page 5 of 22)
 Development Officer CHARLSEY WHITE



LANDSCAPE DATA

REQUIRED LANDSCAPING
 2.5.1 (a) of the YELLOWKNIFE ZONING BY-LAW STATES THAT ANY PART OF THE LOT NOT COVERED BY BUILDING OR DRIVE SHALL BE MAINTAINED AS LANDSCAPED AREA. OUTDOOR TERRACE IS TO BE MAINTAINED AS LANDSCAPED AREA.
 TABLE 2-1 of 7.5.1 NOTES THAT 100% OF RESIDENTIAL AREA IS TO BE MAINTAINED AS LANDSCAPED AREA IN A NATURAL STATE.
 WITHIN THE RESIDENTIAL AREA NO CALCULATED ONE TREE PER EACH 200m² AND TWO SHRUBS FOR EACH 200m² TO BE PROVIDED.

TREES 48 PROVIDED				
SYMBOL	BOTANICAL NAME	COMMON NAME	SPREAD (APPROX)	NO.
DECIDUOUS TREES				
Sc	PRUNUS VIRGINIANA "SCHUBERT"	SCHUBERT CHOKECHERRY	3.6m w 8m t	18
PP	PRUNUS PADUS	MAYDAY	7.6m w 9.1m t	18
CONIFEROUS TREES				
L	LARIX LARICANA	TAMARACK	6m w 20m t	12

SHRUBS 58 PROVIDED				
SYMBOL	BOTANICAL NAME	COMMON NAME	SPREAD (APPROX)	NO.
nd	PHYSCOCARPUS OPULIFOLUS "MONLO"	NORBARK DIABLO	2.4m w 2.4m t	35
sb	SHEPHERDIA ARGENTEA	SILVER BUFFALOBERRY	3m w 4m t	37
ej	JUNIPERUS COMMUNIS "EFFUSA"	EFFUSA COMMON JUNIPER	1.5m w 1.0m t	13
mp	PINUS MUGO	SWISS MOUNTAIN DWARF MUGO PINE	1.5m w 1.0m t	12

All shrub beds to be covered with 50-100mm of 15mm# washed rock or mulch over 0.39oz. weed barrier ultra woven fabric or Nixax 4339 non-woven geotextile fabric.
 All plant material shall meet the horticultural standards of the most current edition of the Guide Specifications for Nursery Stock, produced by the Canadian Nursery Trade Association.
 All plants shall be suitable for the specific application and hardy to this region and actual site conditions. The most current edition of the NWT Horticultural Guide shall be used as reference.

SITE PLAN - LANDSCAPING
 1:250

REVISED FOR DEVELOPMENT PERMIT JUNE 16, 2022

NOTE:
 The applicant shall obtain and verify all dimensions and measurements of existing structures on this drawing and site plan drawings. Specifications for materials and methods shall be verified before proceeding with the project. The applicant shall ensure that the project complies with all applicable laws and regulations. All dimensions and notes are provided for the information of the client and are not to be used as a basis for construction.

CONSULTANT:

SEAL:

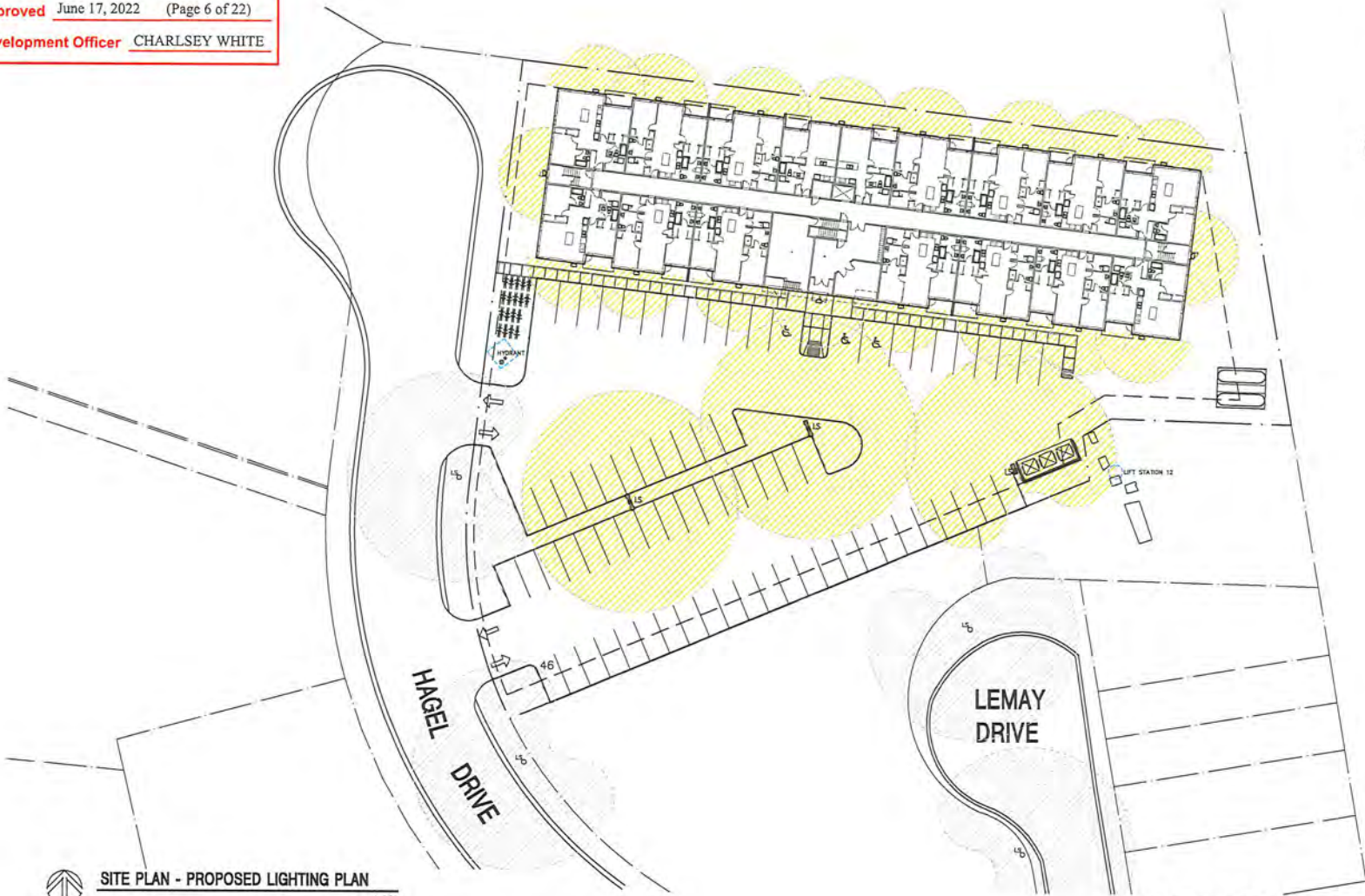
ISSUE:

**WILLIAM
 RUTLEDGE
 ARCHITECT**


PROJECT:
**THE VIEW APARTMENTS
 PHASE 5 - NIVEN LAKE
 LOT A, BLOCK 307, PLAN 4441
 YELLOWKNIFE N.W.T.**

DWG:
A1-004
 JOB NO: 21-0400

City of Yellowknife
 Development Permit # PL-2022-0075
 Approved June 17, 2022 (Page 6 of 22)
 Development Officer CHARLSEY WHITE



- LEGEND** NEW SITE LIGHTING
- LITHONIA LIGHTING OLW 23 LED WALL LIGHT
 "NIGHTTIME FRIENDLY" WITH FULL CUTOFF ABOVE 90°
 2720 LUMENS AT 5000K
 DOWNCAST WALL LAMP
 SURFACE MOUNTED
 - LITHONIA LIGHTING KAX1 AREA LIGHT
 "NIGHTTIME FRIENDLY" WITH FULL CUTOFF ABOVE 90°
 8200-22000 LUMENS AT 5000K
 DOWNCAST POLE MOUNTED AREA LAMP
 FOR SMALL TO MEDIUM SIZED PARKING LOTS

 **SITE PLAN - PROPOSED LIGHTING PLAN**
 1:250

NOTE:
 The contractor shall obtain and verify all dimensions and measurements of materials shown on this drawing and verify them on-site. Responsibilities and on-site verification shall be the responsibility of the contractor. The client accepts no liability for any errors or omissions on this drawing. All drawings and prints shown are the property of the architect and shall remain the property of the architect until payment in full is received.

CONSULTANT: _____

SEAL: _____

ISSUE: _____

#202, 11121-156 ST., EDMONTON, ALBERTA T5M 1X9

**WILLIAM
 RUTLEDGE
 ARCHITECT**

REVISED FOR DEVELOPMENT PERMIT JUNE 7 2022

PROJECT:
**THE VIEW APARTMENTS
 PHASE 5 - NIVEN LAKE
 LOT A, BLOCK 307, PLAN 4441
 YELLOWKNIFE N.W.T.**

TEL: 1-780-454-3422 FAX: 1-780-482-2921

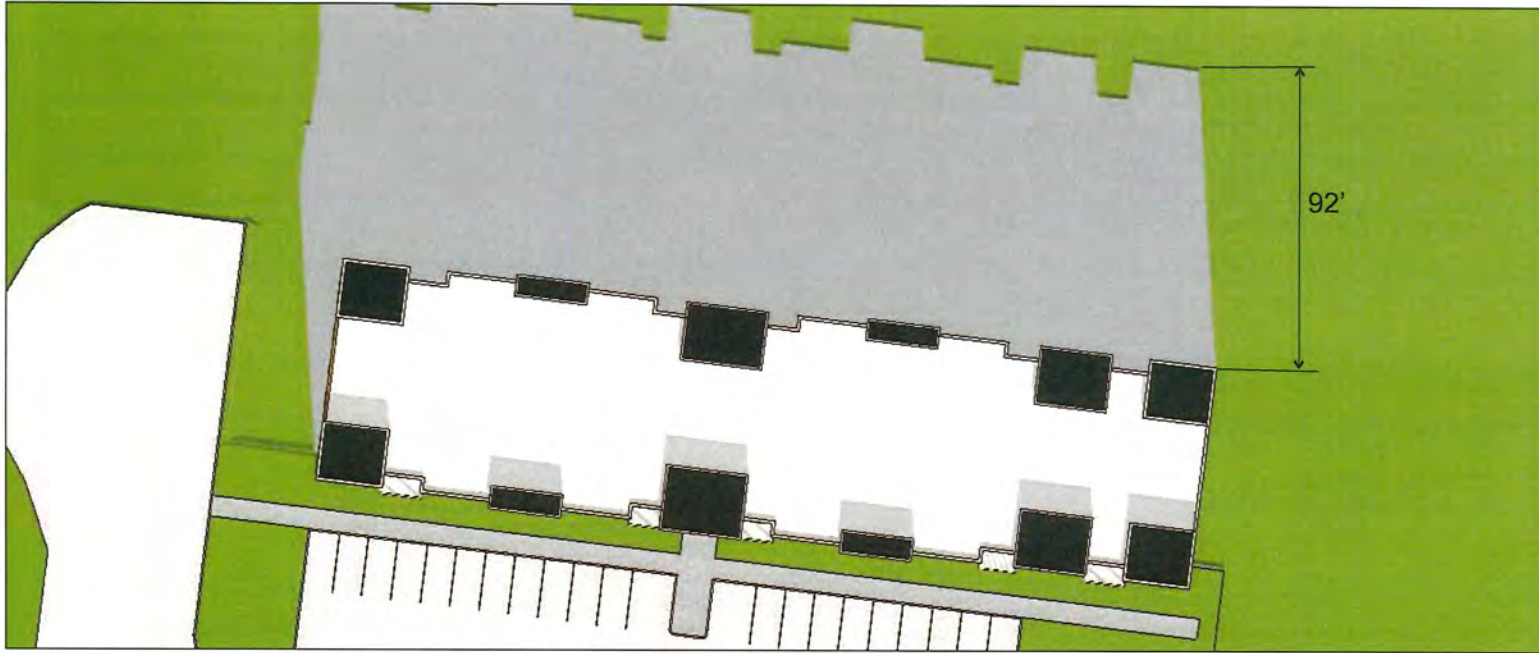
DWG.
A1-005
 JOB NO: 21-0400

City of Yellowknife

Development Permit # PL-2022-0075

Approved June 17, 2022 (Page 7 of 22)

Development Officer CHARLSEY WHITE



BUILDING SHADOW - MARCH 21, 12 NOON

NOTE:

The contractor shall check and verify all dimensions and measurements of materials shown on this drawing and with their drawings. Specifications and service standards where discrepancies occur, he shall report same to the architect before proceeding with any portion of the work or be responsible for such discrepancies. All drawings and prints thereof are the property of the architect and must be returned to him at completion of the work.

CONSULTANT:

[Empty box for Consultant signature]

SEAL:

[Empty box for Seal]

ISSUE:

[Empty box for Issue]

#2C2, 11121-156 ST., EDMONTON, ALBERTA T5M 1X9

**WILLIAM
RUTLEDGE
ARCHITECT**

PROJECT

**THE VIEW APARTMENTS
PHASE 5 - NIVEN LAKE
LOT A, BLOCK 307, PLAN 4441
YELLOWKNIFE N.W.T.**

TEL: 1-780-454-3422 FAX: 1-780-482-2921

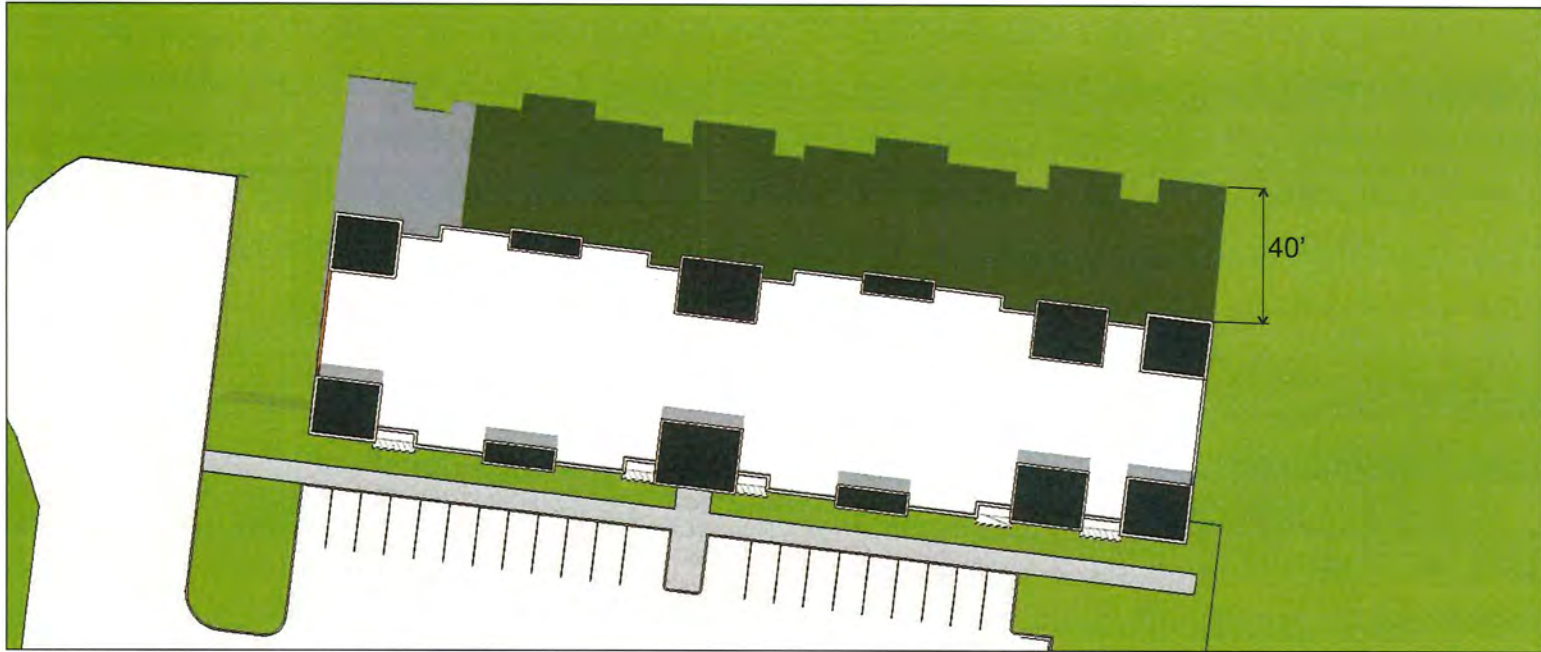
ISSUED FOR REVIEW MAY 30, 2022

DWG.

A1-006

JOB NO. 21-0400

City of Yellowknife
 Development Permit # PL-2022-0075
 Approved June 17, 2022 (Page 8 of 22)
 Development Officer CHARLSEY WHITE



BUILDING SHADOW - JUNE 21, 12 NOON

ISSUED FOR REVIEW MAY 30, 2022

NOTE:
 The contractor shall check and verify all dimensions and measurements of materials shown on this drawing and with their drawings. Specifications and materials shall be subject to change without notice. Where discrepancies occur, the contractor shall report same to the architect before proceeding with any portion of the work or be responsible for such discrepancies. All drawings and prints issued are the property of the architect and must be returned to him at completion of the work.

CONSULTANT:

SEAL:

ISSUE:

WILLIAM
 RUTLEDGE
 ARCHITECT

PROJECT
**THE VIEW APARTMENTS
 PHASE 5 - NIVEN LAKE
 LOT A, BLOCK 307, PLAN 4441
 YELLOWKNIFE N.W.T.**

DWG:
A1-007
 JOB NO. 21-0400

#2C2, 11121-156 ST., EDMONTON, ALBERTA T5M 1X9

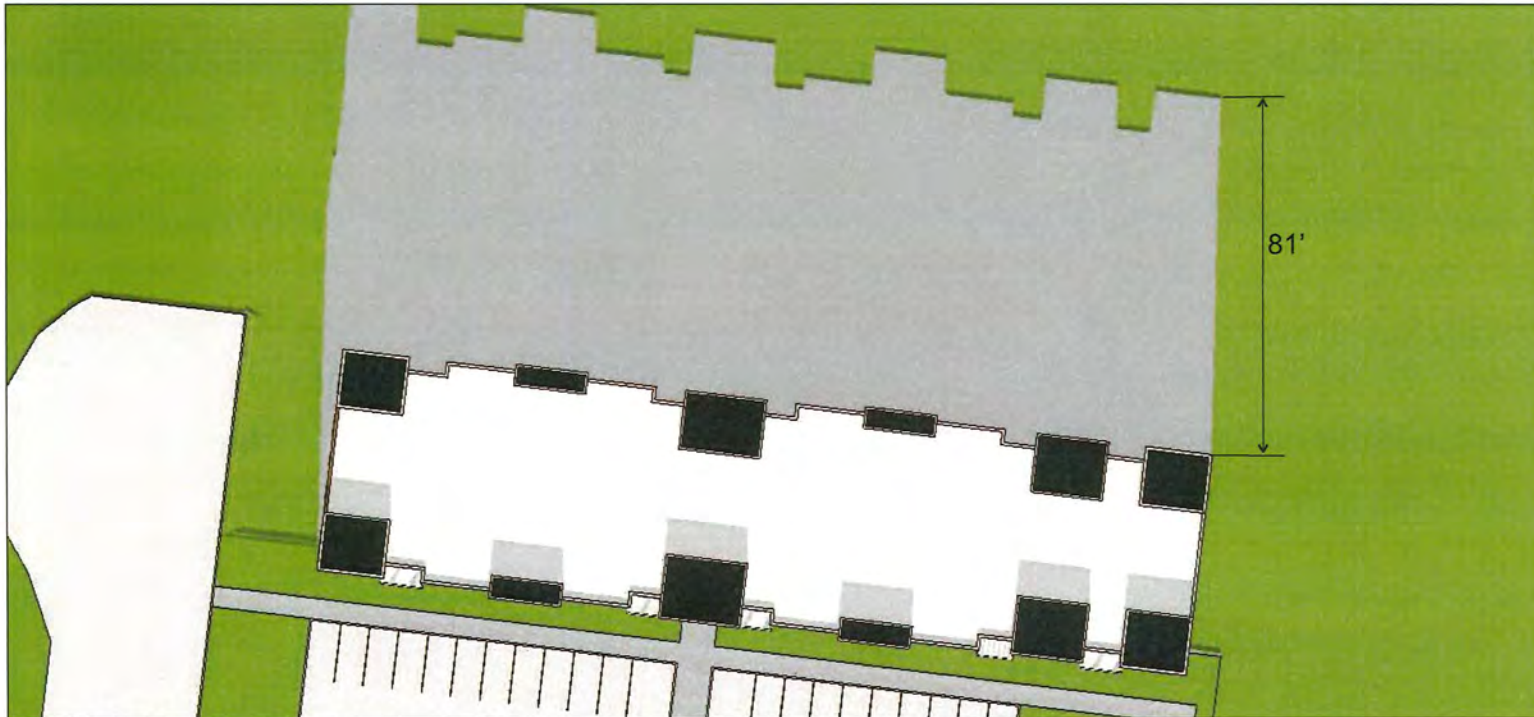
TEL: 1-780-454-3422 FAX: 1-780-482-2921

City of Yellowknife

Development Permit # PL-2022-0075

Approved June 17, 2022 (Page 9 of 22)

Development Officer CHARLSEY WHITE



BUILDING SHADOW - SEPT. 21, 12 NOON

ISSUED FOR REVIEW MAY 30, 2022

NOTE:
The contractor shall check and verify all dimensions and measurements of materials shown on this drawing and with other drawings. Specifications and service conditions where discrepancies occur, he shall report same to the architect before proceeding with any portion of the work or be responsible for such discrepancies. All drawings and prints issued are the property of the architect and must be returned to him at completion of the work.

CONSULTANT:

[Empty box for Consultant signature]

SEAL:

[Empty box for Seal]

ISSUE:

[Empty box for Issue]

#202, 11121-156 ST., EDMONTON, ALBERTA T5M 1X9

**WILLIAM
RUTLEDGE
ARCHITECT**

PROJECT

**THE VIEW APARTMENTS
PHASE 5 - NIVEN LAKE
LOT A, BLOCK 307, PLAN 4441
YELLOWKNIFE N.W.T.**

TEL: 1-780-454-3422 FAX: 1-780-482-2921

DWG:

A1-008

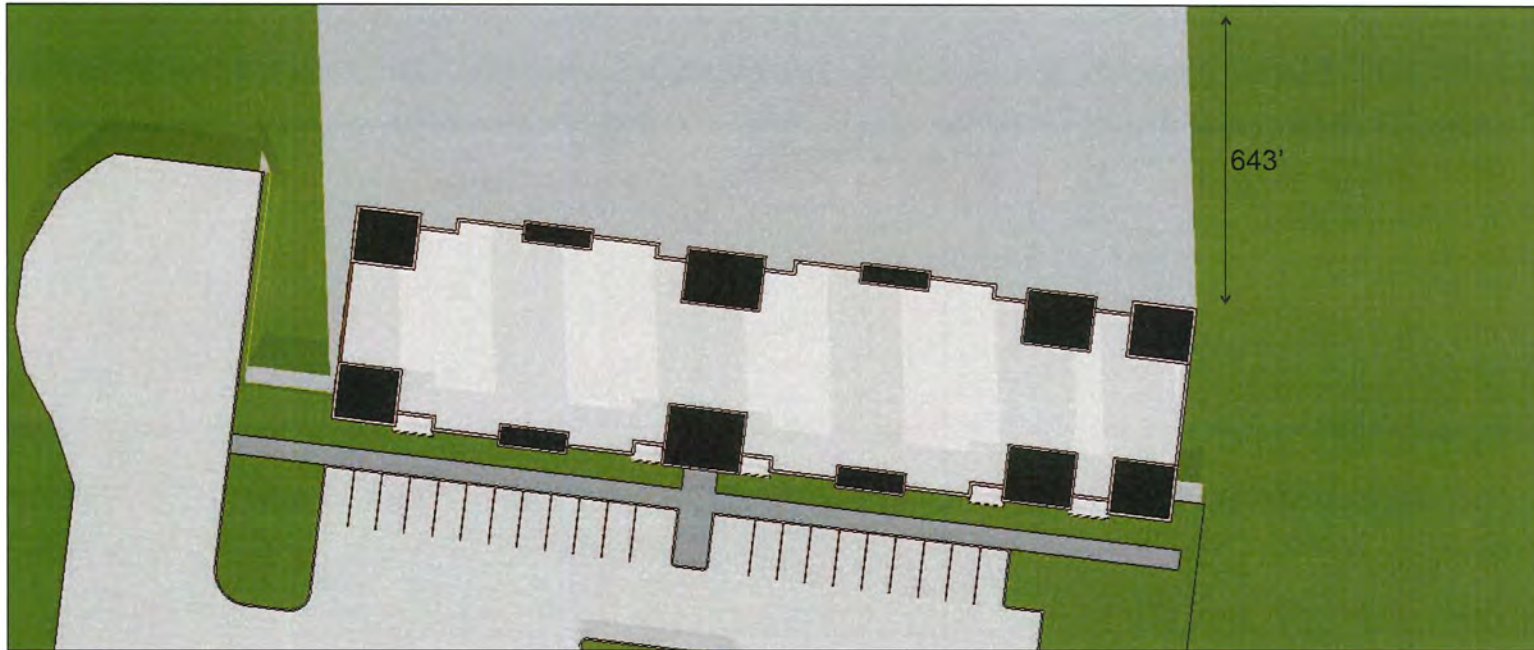
JOB NO. 21-0400

City of Yellowknife

Development Permit # PL-2022-0075

Approved June 17, 2022 (Page 10 of 22)

Development Officer CHARLSEY WHITE



BUILDING SHADOW - DECEMBER 21, 12 NOON

NOTE:

The architect shall check and verify all dimensions and measurements of materials shown on this drawing and with other drawings. Specifications and working conditions where discrepancies occur, he shall report same to the architect before proceeding with any portion of the work or be responsible for such discrepancies. All drawings and prints issued are the property of the architect and must be returned to him at completion of the work.

CONSULTANT:

[Empty box for Consultant signature]

SEAL:

[Empty box for Seal]

ISSUE:

[Empty box for Issue]

#2C2, 11121-156 ST., EDMONTON, ALBERTA T5M 1X9

**WILLIAM
RUTLEDGE
ARCHITECT**

PROJECT

**THE VIEW APARTMENTS
PHASE 5 - NIVEN LAKE
LOT A, BLOCK 307, PLAN 4441
YELLOWKNIFE N.W.T.**

TEL: 1-780-454-3422 FAX: 1-780-482-2921

DWG:

A1-009

JOB NO. 21-0400

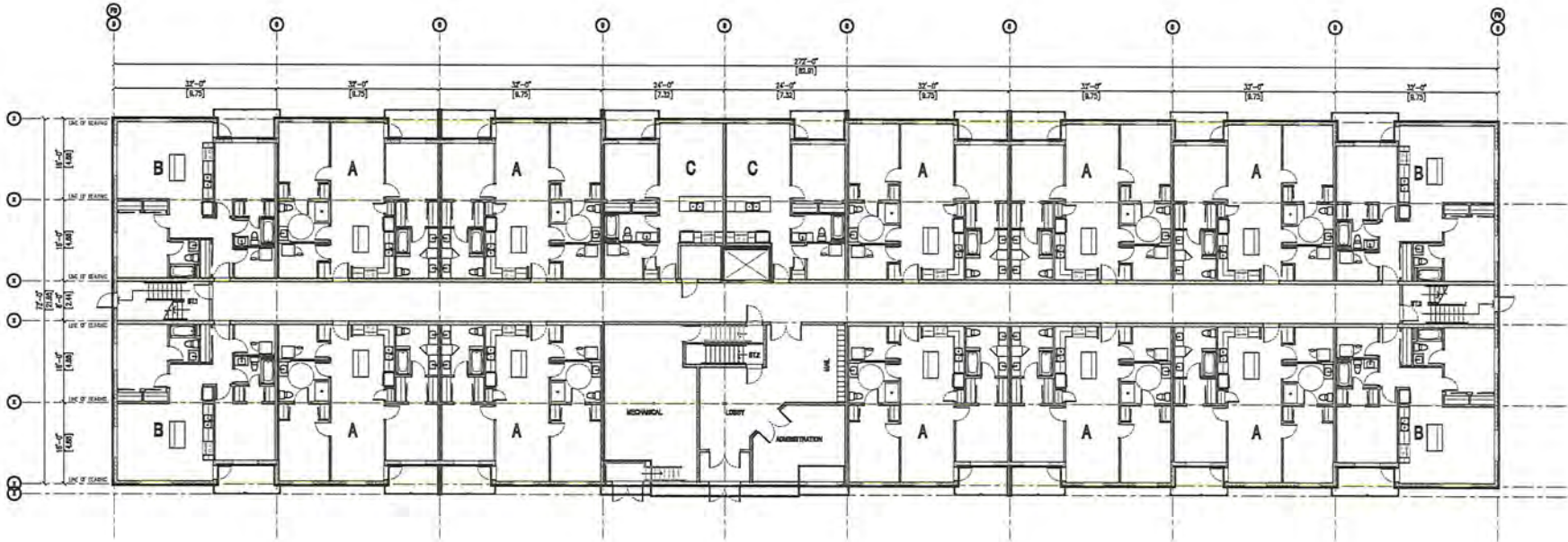
ISSUED FOR REVIEW MAY 30, 2022

City of Yellowknife

Development Permit # PL-2022-0075

Approved June 17, 2022 (Page 11 of 22)

Development Officer CHARLSEY WHITE



MAIN FLOOR PLAN (19,113 SQ.FT.)
 (1,775m²) 3/84"=1'-0"

NOTE:
 The contractor shall check and verify all dimensions and measurements of construction items on the drawing and verify against the specifications and as-built conditions when construction starts. The contractor shall report any discrepancies to the designer before proceeding with any portion of the work to be completed. For each discrepancy, all drawings and details shall be returned to him or her and shall be returned to him or her at completion of the work.

CONSULTANT:



ISSUE:

#202, 11121-156 ST., EDMONTON, ALBERTA T5M 1X9

**WILLIAM
 RUTLEDGE
 ARCHITECT**

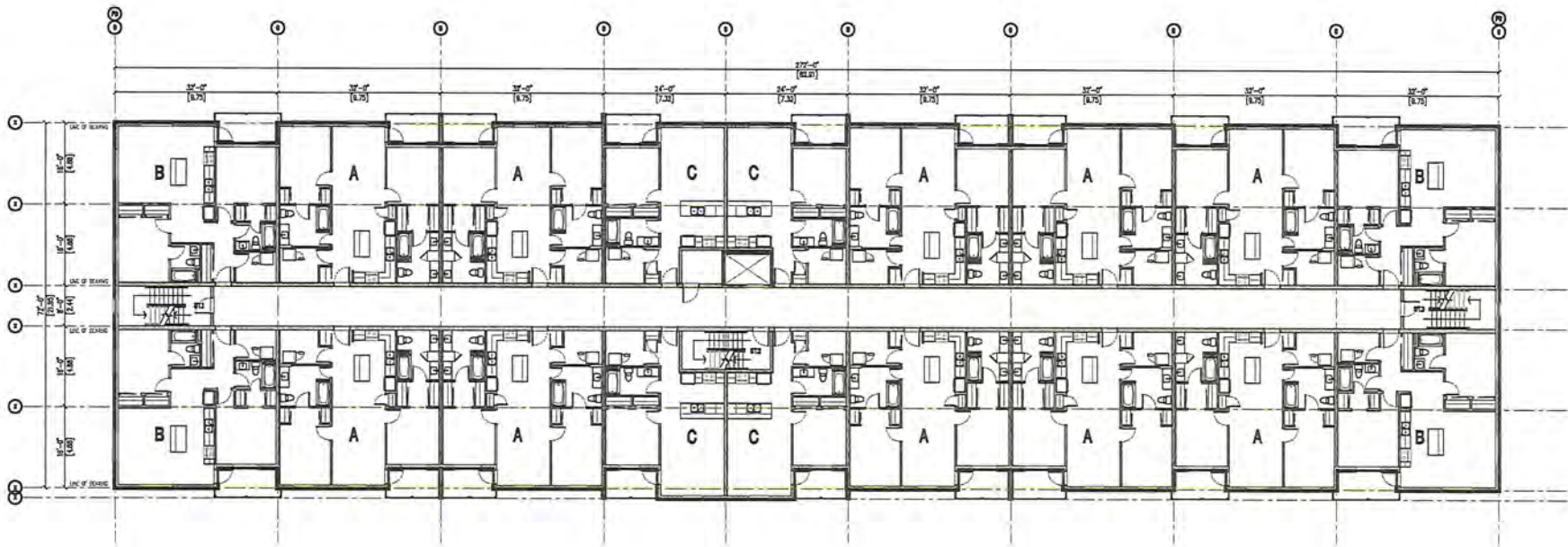
ISSUED FOR DEVELOPMENT PERMIT APRIL 21, 2022

PROJECT:
**THE VIEW APARTMENTS
 PHASE 5 - NIVEN LAKE
 LOT A, BLOCK 307, PLAN 4441
 YELLOWKNIFE N.W.T.**

TEL: 1-780-454-3422 FAX: 1-780-482-2921

DWG.
A1-102
 JOB NO: 21-0400

City of Yellowknife
 Development Permit # PL-2022-0075
 Approved June 17, 2022 (Page 12 of 22)
 Development Officer CHARLSEY WHITE



SECOND FLOOR PLAN (19,088 SQ.FT)
 (1,773m²) 3/64"=1'-0"

NOTE:
 The architect shall check and verify all dimensions, including wall and door thicknesses, for compatibility with all applicable provisions and standards. The architect shall be responsible for the accuracy of the work as shown on the drawings. All drawings and specifications shall be prepared in accordance with the provisions of the Act and the Regulations. All drawings and specifications shall be prepared in accordance with the provisions of the Act and the Regulations. All drawings and specifications shall be prepared in accordance with the provisions of the Act and the Regulations.

CONSULTANT:



ISSUE:

#202, 11121-156 ST., EDMONTON, ALBERTA T5M 1X9

**WILLIAM
 RUTLEDGE
 ARCHITECT**

ISSUED FOR DEVELOPMENT PERMIT APRIL 21, 2022

PROJECT: THE VIEW APARTMENTS
 PHASE 5 - NIVEN LAKE
 LOT A, BLOCK 307, PLAN 4441
 YELLOWKNIFE N.W.T.

DWG. A1-103

TEL: 1-780-454-3422 FAX: 1-780-482-2921

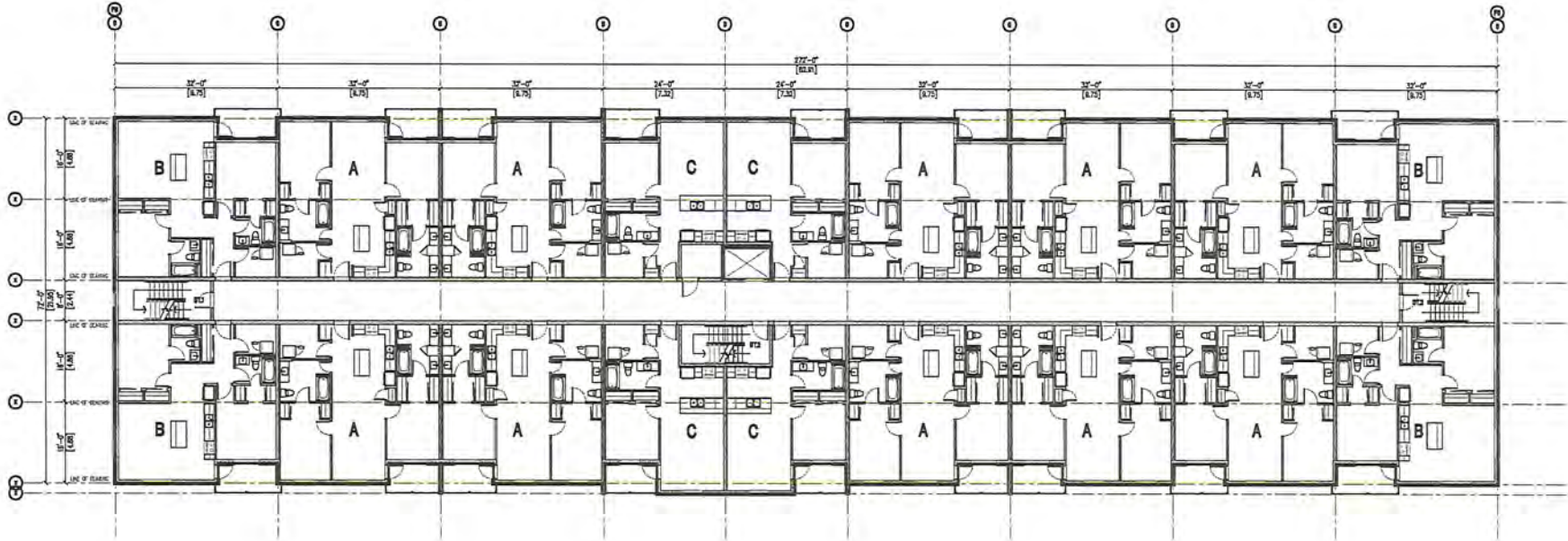
JOB NO: 21-0400

City of Yellowknife

Development Permit # PL-2022-0075

Approved June 17, 2022 (Page 13 of 22)

Development Officer CHARLSEY WHITE



THIRD FLOOR PLAN (19,088 SQ.FT)
(1,773m²) 3/8"=1'-0"

NOTE:

The contractor shall check and verify all dimensions and measurements of materials shown on this drawing and with other drawings, specifications and written conditions when construction starts. He shall report items to the designer before proceeding with the work. All drawings and plans shown are the property of the designer and shall be returned to him at completion of the work.

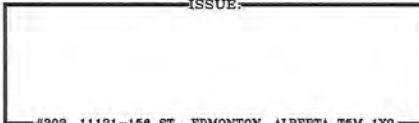
CONSULTANT:



SEAL:



ISSUE:



#202, 11121-156 ST., EDMONTON, ALBERTA T5M 1X9

**WILLIAM
RUTLEDGE**
ARCHITECT

ISSUED FOR DEVELOPMENT PERMIT APRIL 21, 2022

PROJECT:

THE VIEW APARTMENTS
PHASE 5 - NIVEN LAKE
LOT A, BLOCK 307, PLAN 4441
YELLOWKNIFE N.W.T.

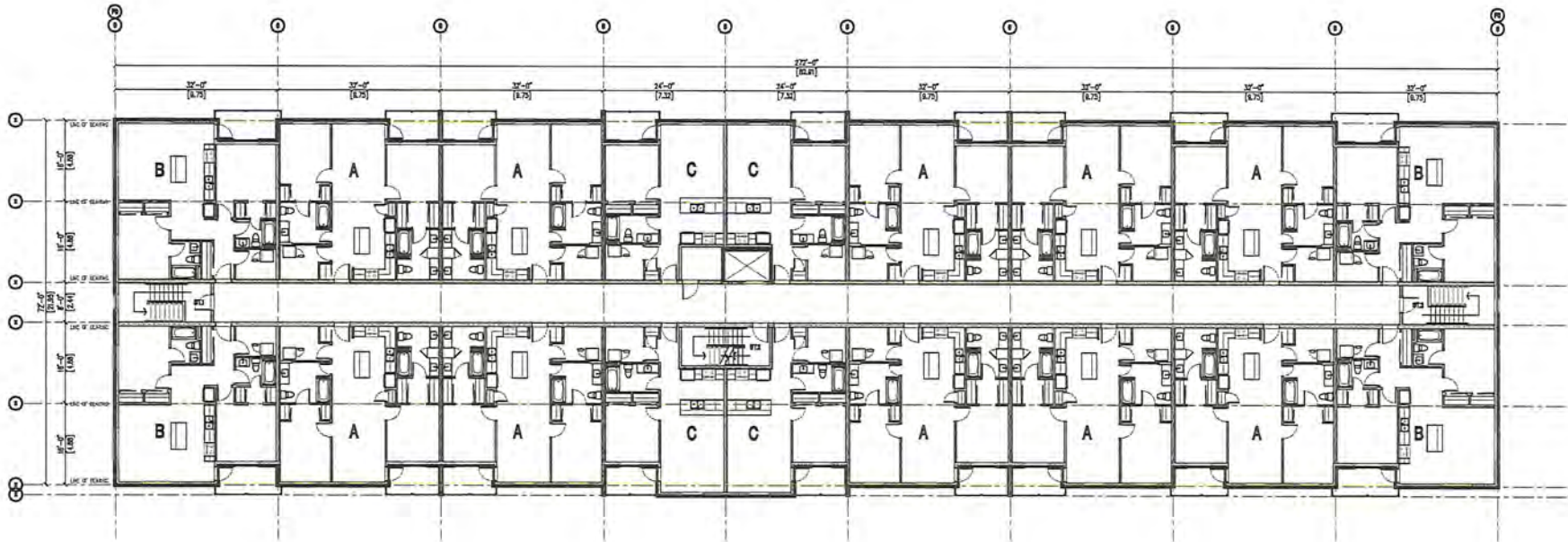
DWG.

A1-104

TEL: 1-780-454-3422 FAX: 1-780-482-2921

JOB NO: 21-0400

City of Yellowknife
 Development Permit # PL-2022-0075
 Approved June 17, 2022 (Page 14 of 22)
 Development Officer CHARLSEY WHITE



FOURTH FLOOR PLAN (19,088 SQ.FT.)
 (1,773m²) 3/84"=1'-0"

NOTE:
 The contractor shall check and verify all dimensions and measurements of materials shown on this drawing and with other drawings. Specifications and materials shall be approved in writing by the architect before any work is commenced. All drawings and notes shall be returned to him at completion of the work.

CONSULTANT:






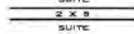
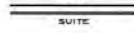

ISSUE:
 #202, 11121-156 ST., EDMONTON, ALBERTA T5M 1X9

WILLIAM RUTLEDGE ARCHITECT

ISSUED FOR DEVELOPMENT PERMIT APRIL 21, 2022
 PROJECT:
 THE VIEW APARTMENTS
 PHASE 5 - NIVEN LAKE
 LOT A, BLOCK 307, PLAN 4441
 YELLOWKNIFE N.W.T.
 TEL: 1-780-454-3422 FAX: 1-780-482-2921

DWG.
 A1-105
 JOB NO: 21-0400

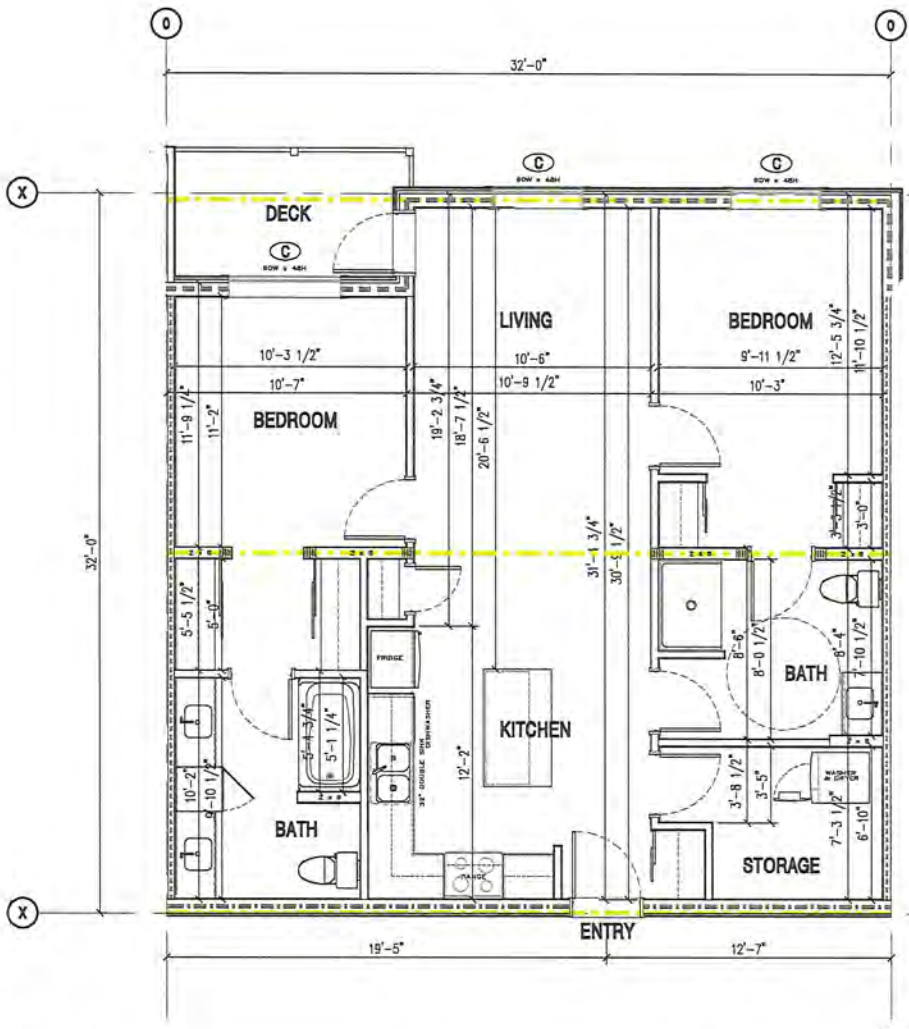
WALL LEGEND

- | | |
|--|---|
| <p>EXTERIOR</p>  <p>PER YELLOWKNIFE BUILDING BYLAW
 MINIMUM RSI = 5.28 (R^{30,00})</p> | <p>W1 TYPICAL EXTERIOR WALL - (9" X 4.4")
 EXTERIOR FINISH: CANEXEL PREFINISHED EXTERIOR SIDING
 1" x 4" HORIZONTAL STRAPPING (BANDSCREEN)
 TYVEK OR EQUIVALENT AIR BARRIER
 7/16" OSB SHEATHING
 2" x 2" HORIZONTAL STRAPPING @ 24" O.C.
 2x8 SPF #2 WOOD FRAMING @ 24" O.C.
 171.2mm 2LB MEDIUM DENSITY SPRAY FOAM
 5/8" TYPE X GYPSUM BOARD, FINISHED</p> |
| <p>SUITE</p>  | <p>W2 SUITE DEMISING WALL
 5/8" TYPE X GYPSUM BOARD, FINISHED
 1/2" RESILIENT CHANNEL
 2x4 WOOD FRAMED WALL @ 24" O.C.
 1" AIR SPACE WITH 1/2" GONNA CONNA BOARD
 2x4 WOOD FRAMED WALL @ 24" O.C.
 1/2" RESILIENT CHANNEL
 5/8" TYPE X GYPSUM BOARD, FINISHED</p> |
| <p>CORRIDOR</p>  | <p>W3 CORRIDOR / EXIT WALL
 2 LAYERS 5/8" TYPE X GYPSUM BOARD, FINISHED
 5/8" RESILIENT CHANNEL
 2x8 COMMON PLATE TOP AND BOTTOM
 C/M 2x4 SPF #2 WOOD FRAMED WALL @ 12" O.C. STAGGERED
 1" SOUND BATT INSULATOR
 5/8" TYPE X GYPSUM BOARD, FINISHED</p> |
| <p>SUITE</p>  | <p>W4 INTERIOR 2x6 PLUMBING / SUPPORT WALL
 5/8" GYPSUM BOARD, FINISHED
 2x4 WOOD FRAMED WALL @ 16" O.C.
 5/8" GYPSUM BOARD, FINISHED</p> |
| <p>SUITE</p>  | <p>W5 TYPICAL INTERIOR 2x4 WALL
 5/8" GYPSUM BOARD, FINISHED
 2x4 WOOD FRAMED WALL @ 16" O.C.
 5/8" GYPSUM BOARD, FINISHED</p> |
-  TONE INDICATES BALCONY ABOVE

DIMENSION NOTE

UNLESS OTHERWISE SPECIFIED, ALL
 DIMENSIONS ILLUSTRATED ON THIS
 SHEET READ TO EITHER GRIDLINES
 OR FACE OF FRAMING ONLY.

UNIT A PLAN (943 SQ.FT.) 40 UNITS
 1,007 SQUARE FEET WITH BALCONY 3/16"=1'-0"



NOTE:
 The contractor shall check and verify all
 dimensions and measurements of materials
 shown on this drawing and with other draw-
 ings. Specifications and materials shall be
 checked against the drawings before purchase.
 Construction shall be in accordance with
 the drawings and specifications. All drawings
 and notes placed on the property of the
 designer and shall be returned to him at
 completion of the work.

CONSULTANT:

SEAL:


ISSUE:
 #202, 11121-156 ST., EDMONTON, ALBERTA T5M 1X9

**WILLIAM
 RUTLEDGE
 ARCHITECT**

ISSUED FOR DEVELOPMENT PERMIT APRIL 21, 2022

PROJECT: THE VIEW APARTMENTS
 PHASE 5 - NIVEN LAKE
 LOT A, BLOCK 307, PLAN 4441
 YELLOWKNIFE N.W.T.

TEL: 1-780-454-3422 FAX: 1-780-482-2921

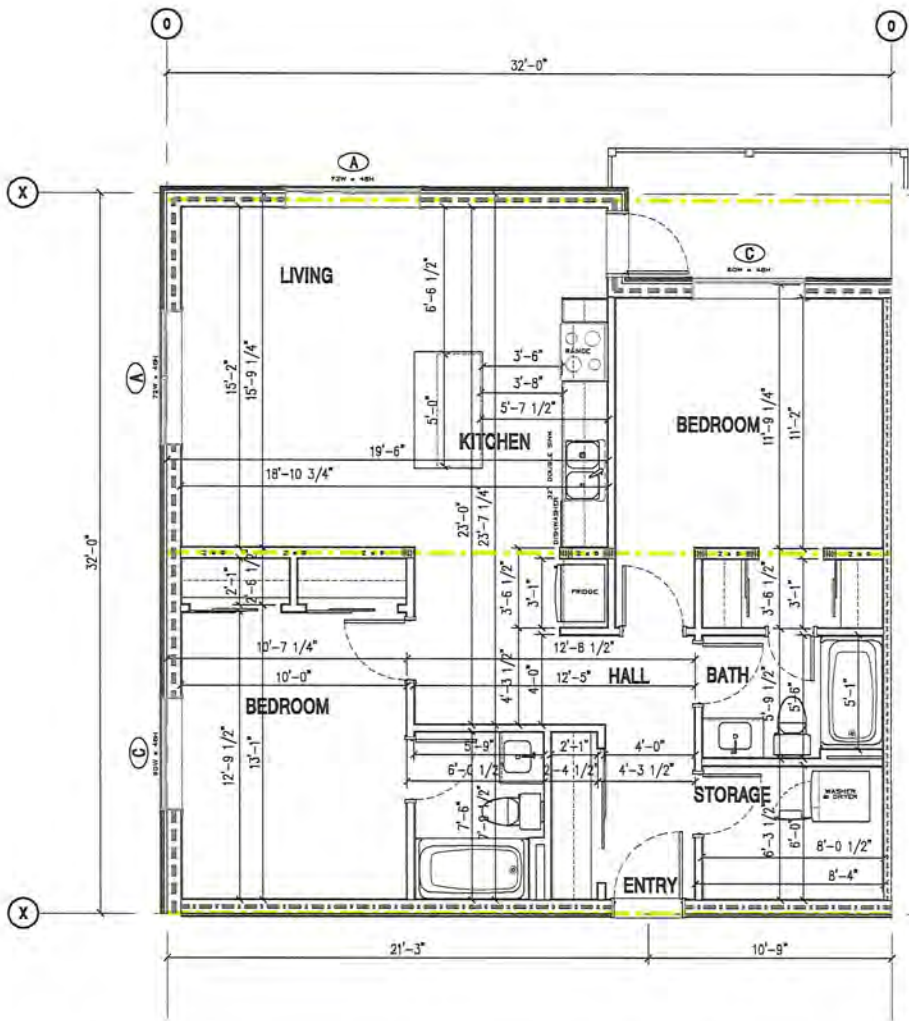
A1-114
 JOB NO: 21-0400

WALL LEGEND

- EXTERIOR**
 W1 TYPICAL EXTERIOR WALL - (R# 30.43)
 EXTERIOR FINISH CANDEL PREFINISHED EXTERIOR SIDING
 1" X 4" HORIZONTAL STRAPPING (BANDSHEED)
 TYPIC OR EQUIVALENT AIR BARRIER
 7/16" OSB SHEATHING
 2" X 2" HORIZONTAL STRAPPING @ 24" O.C.
 2x6 SPF #2 WOOD FRAMING @ 24" O.C.
 171.2mm 2LB MEDIUM DENSITY SPRAY FOAM
 5/8" TYPE X GYPSUM BOARD, FINISHED
- SUITE**
 W2 SUITE DEMISING WALL
 5/8" TYPE X GYPSUM BOARD, FINISHED
 5/8" RESIDENT CHANNEL
 2x4 WOOD FRAMED WALL @ 24" O.C.
 1" AIR SPACE WITH 1/2" DOWNA CORNER BOARD
 2x4 WOOD FRAMED WALL @ 24" O.C.
 5/8" RESIDENT CHANNEL
 5/8" TYPE X GYPSUM BOARD, FINISHED
- CORRIDOR**
 W3 CORRIDOR / EOT WALL
 2 LAYERS 5/8" TYPE X GYPSUM BOARD, FINISHED
 5/8" RESIDENT CHANNEL
 2x6 COMMON PLATE TOP AND BOTTOM
 C/M 2x4 SPF #2 WOOD FRAMED WALL @ 12" O.C. STAGGERED
 5" SOUND BATT INSULATION
 5/8" TYPE X GYPSUM BOARD, FINISHED
- SUITE**
 W4 INTERIOR 2x6 PLUMBING / SUPPORT WALL
 5/8" GYPSUM BOARD, FINISHED
 2x6 WOOD FRAMED WALL @ 16" O.C.
 5/8" GYPSUM BOARD, FINISHED
- SUITE**
 W5 TYPICAL INTERIOR 2x4 WALL
 5/8" GYPSUM BOARD, FINISHED
 2x4 WOOD FRAMED WALL @ 16" O.C.
 5/8" GYPSUM BOARD, FINISHED
- TONE INDICATES BALCONY ABOVE

DIMENSION NOTE
 UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ILLUSTRATED ON THIS SHEET READ TO EITHER GRIDLINES OR FACE OF FRAMING ONLY.

UNIT B PLAN (918 SQ.FT.) 16 UNITS
 993 SQUARE FEET WITH BALCONY 3/16"=1'-0"



NOTE:
 The contractor shall check and verify all dimensions and measurements of materials shown on this drawing and with other drawings. Specifications and materials shall conform to the latest editions of the applicable codes and standards. All dimensions shall be given in feet and inches. All drawings and plans shall be prepared by the architect and shall be checked by him at completion of the work.

CONSULTANT:



ISSUE:
 #202, 11121-156 ST., EDMONTON, ALBERTA T5M 1X9


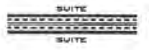

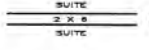
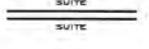


ISSUED FOR DEVELOPMENT PERMIT APRIL 21, 2022
 PROJECT: THE VIEW APARTMENTS PHASE 5 - NIVEN LAKE LOT A, BLOCK 307, PLAN 4441 YELLOWKNIFE N.W.T.
 TEL: 1-780-454-3422 FAX: 1-780-482-2921

DWG.:
 A1-115
 JOB NO: 21-0400

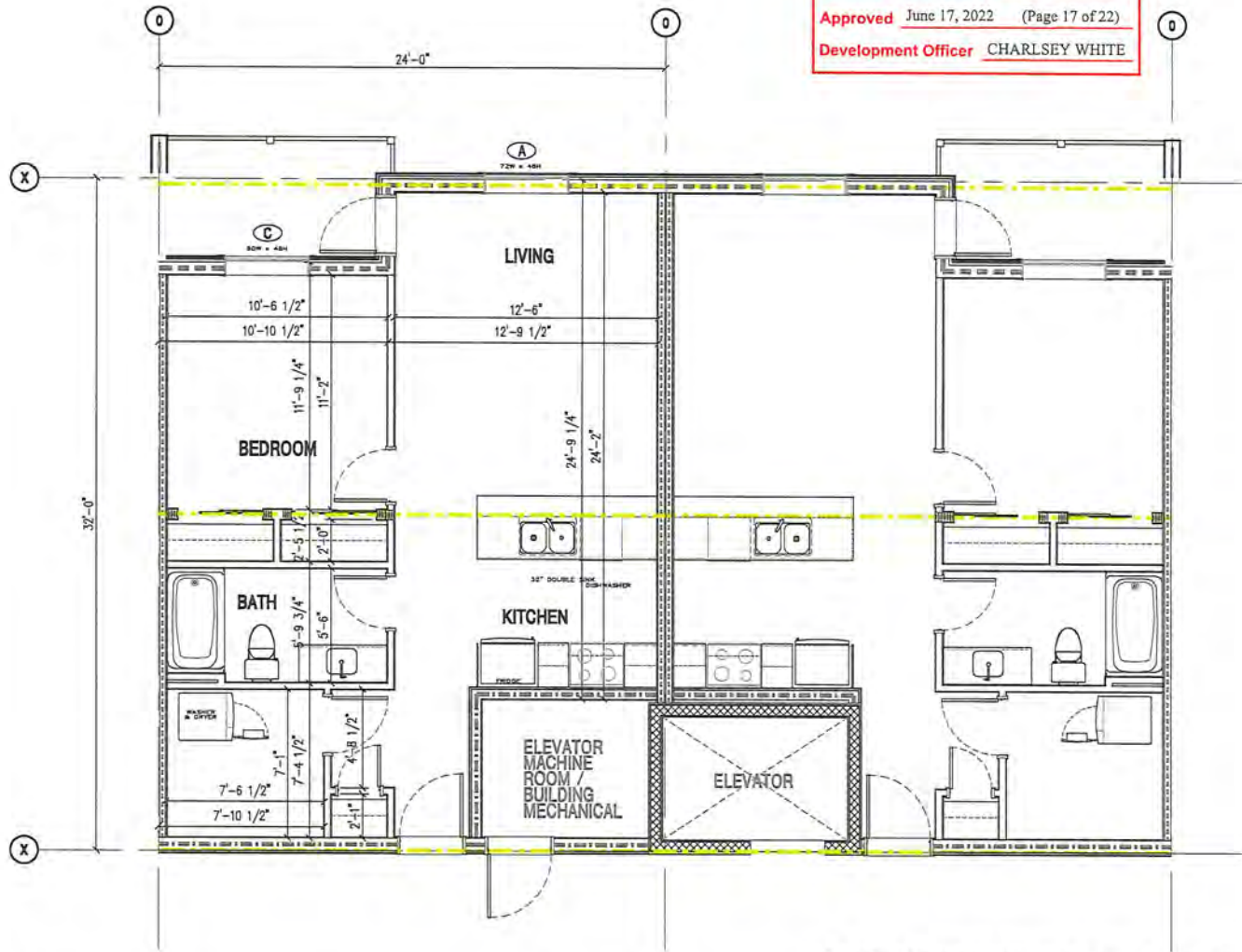
City of Yellowknife
 Development Permit # PL-2022-0075
 Approved June 17, 2022 (Page 17 of 22)
 Development Officer CHARLSEY WHITE

WALL LEGEND

- EXTERIOR**
 **W1** TYPICAL EXTERIOR WALL - (R¹⁵ U^{1.43})
 EXTERIOR FINISH: CANDEL PREFINISHED EXTERIOR SOUNG
 1 1/4" VERTICAL STRAPPING (FRANGIBLE)
 TMX OR EQUIVALENT AIR BARRIER
 7/16" OSB SHEATHING
 2x2" HORIZONTAL STRAPPING @ 24" OC
 2x8 SPF #2 WOOD FRAMING @ 24" OC
 17L2mm ZLS MEDIUM DENSITY SPRAY FOAM
 5/8" TYPE X GYPSUM BOARD, FINISHED
 - SUITE**
 **W2** SUITE DEMISING WALL
 5/8" TYPE X GYPSUM BOARD, FINISHED
 5/8" RESILENT CHANNEL
 2x4 WOOD FRAMED WALL @ 24" O.C.
 1" AIR SPACE WITH 1/2" DONNA CORONA BOARD
 2x4 WOOD FRAMED WALL @ 24" O.C.
 5/8" RESILENT CHANNEL
 5/8" TYPE X GYPSUM BOARD, FINISHED
 - CORRIDOR**
 **W3** CORRIDOR / EXIT WALL
 2 LAYERS 5/8" TYPE X GYPSUM BOARD, FINISHED
 5/8" RESILENT CHANNEL
 2x8 COMMON PLATE TOP AND BOTTOM
 C/P 2x4 SPF#2 WOOD FRAMED WALL @ 12" O.C. STAGGERED
 5" SOUND BATT INSULATION
 5/8" TYPE X GYPSUM BOARD, FINISHED
 - SUITE**
 **W4** INTERIOR 2x4 PLUMBING / SUPPORT WALL
 5/8" GYPSUM BOARD, FINISHED
 2x4 WOOD FRAMED WALL @ 16" O.C.
 5/8" GYPSUM BOARD, FINISHED
 - SUITE**
 **W5** TYPICAL INTERIOR 2x4 WALL
 5/8" GYPSUM BOARD, FINISHED
 2x4 WOOD FRAMED WALL @ 16" O.C.
 5/8" GYPSUM BOARD, FINISHED
- TONE INDICATES BULKHEAD ABOVE

DIMENSION NOTE
 UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ILLUSTRATED ON THIS SHEET READ TO EITHER GRIDLINES OR FACE OF FRAMING ONLY.

UNIT C PLAN REAR (587 SQ.FT) B UNITS
 646 SQUARE FEET WITH BALCONY 3/16"=1'-0"



NOTE:
 The contractor shall check and verify all dimensions and measurements of materials before construction and shall report any discrepancies immediately to the architect. The architect shall not be responsible for any errors or omissions in this drawing unless otherwise specified. All drawings and prints shall be returned to the architect and shall be retained in file in accordance with the contract.

CONSULTANT:

SEAL:


ISSUE:

 #202, 11121-150 ST., EDMONTON, ALBERTA T5M 1X9

WILLIAM RUTLEDGE ARCHITECT

ISSUED FOR DEVELOPMENT PERMIT APRIL 21, 2022
 PROJECT: THE VIEW APARTMENTS
 PHASE 5 - NIVEN LAKE
 LOT A, BLOCK 307, PLAN 4441
 YELLOWKNIFE N.W.T.
 TEL: 1-780-454-3422 FAX: 1-780-482-2921

DWG: A1-116
 JOB NO: 21-0400

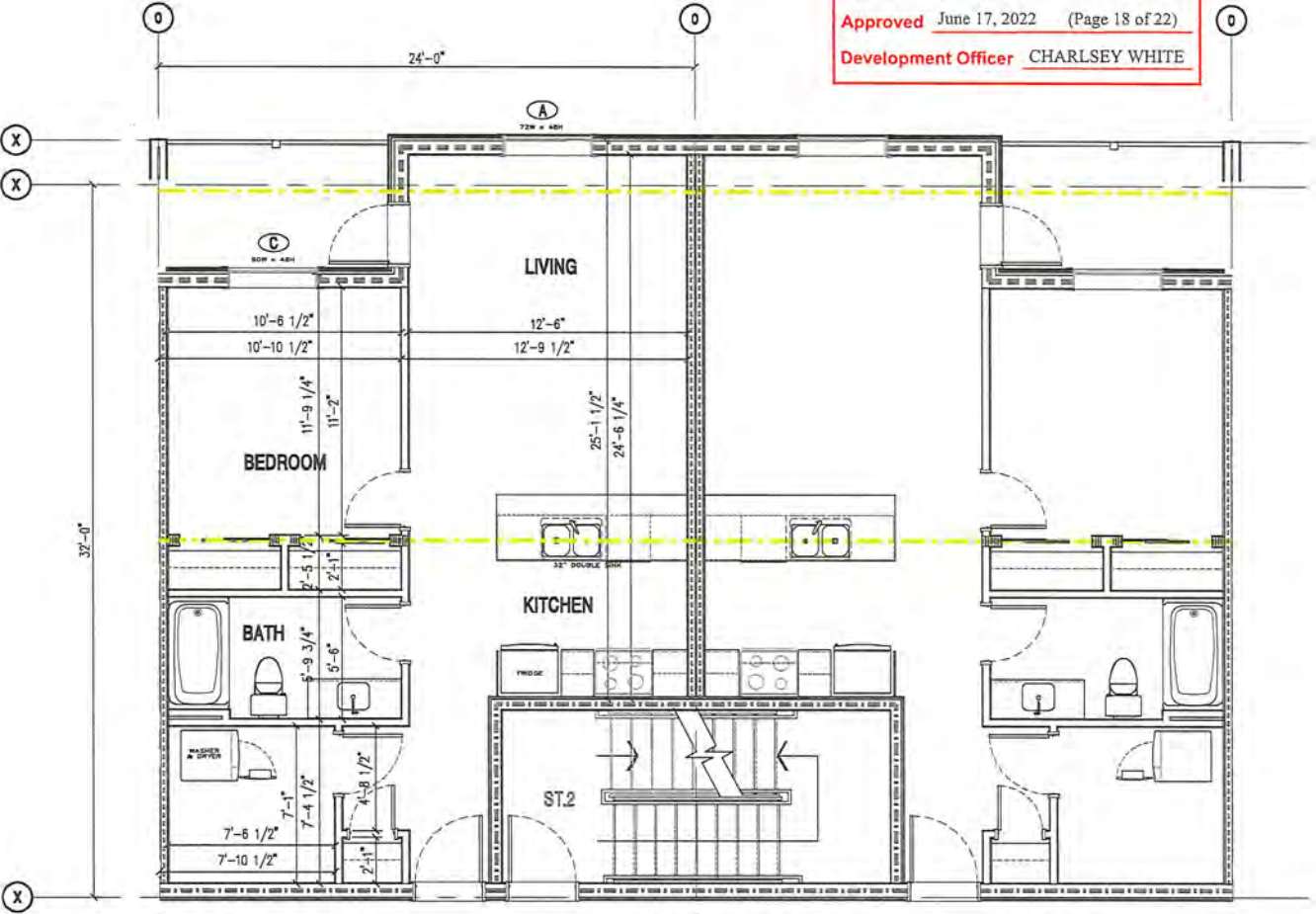
City of Yellowknife
Development Permit # PL-2022-0075
Approved June 17, 2022 (Page 18 of 22)
Development Officer CHARLSEY WHITE

WALL LEGEND

- EXTERIOR**
W1 TYPICAL EXTERIOR WALL - (R² 30.43)
 EXTERIOR FINISH: CANDEL PREFINISHED EXTERIOR SIDING
 1 1/4" METAL STRAPPING (RANSORED)
 TYVEK OR EQUIVALENT AIR BARRIER
 7/16" OSB SHEATHING
 2"X2" HORIZONTAL STRAPPING @ 24" O.C.
 2x6 SPF #2 WOOD FRAMING @ 24" O.C.
 171.2mm XLS MEDIUM DENSITY SPRAY FOAM
 5/8" TYPE X GYPSUM BOARD, FINISHED
- SUITE**
W2 SUITE DEMISING WALL
 5/8" TYPE X GYPSUM BOARD, FINISHED
 5/8" RESILIENT CHANNEL
 2x4 WOOD FRAMED WALL @ 24" O.C.
 1" AIR SPACE WITH 1/2" DONNA DONNA BOARD
 2x4 WOOD FRAMED WALL @ 24" O.C.
 5/8" RESILIENT CHANNEL
 5/8" TYPE X GYPSUM BOARD, FINISHED
- CORRIDOR**
W3 CORRIDOR / EXIT WALL
 2 LAYERS 5/8" TYPE X GYPSUM BOARD, FINISHED
 5/8" RESILIENT CHANNEL
 2x6 COMMON PLATE TOP AND BOTTOM
 C/W 2x4 SPF #2 WOOD FRAMED WALL @ 12" O.C. STAGGERED
 5" SOUND BATT INSULATION
 5/8" TYPE X GYPSUM BOARD, FINISHED
- SUITE**
W4 INTERIOR 2x4 PLUMBING / SUPPORT WALL
 5/8" GYPSUM BOARD, FINISHED
 2x4 WOOD FRAMED WALL @ 16" O.C.
 5/8" GYPSUM BOARD, FINISHED
- SUITE**
W5 TYPICAL INTERIOR 2x4 WALL
 5/8" GYPSUM BOARD, FINISHED
 2x4 WOOD FRAMED WALL @ 16" O.C.
 5/8" GYPSUM BOARD, FINISHED
- TOILE INDICATES BALCONY ABOVE

DIMENSION NOTE

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ILLUSTRATED ON THIS SHEET READ TO EITHER GRIDLINES OR FACE OF FRAMING ONLY.



UNIT C PLAN FRONT (597 SQ.FT.) 6 UNITS
 655 SQUARE FEET WITH BALCONY 3/16"=1'-0"

NOTE:
 The contractor shall identify and verify all dimensions and measurements of materials shown on this drawing and with other drawings. Specifications and materials shall conform to the design intent and shall be approved by the City of Yellowknife. All drawings and plans shall be prepared in accordance with the City of Yellowknife standards and shall be prepared in accordance with the City of Yellowknife standards.

CONSULTANT:



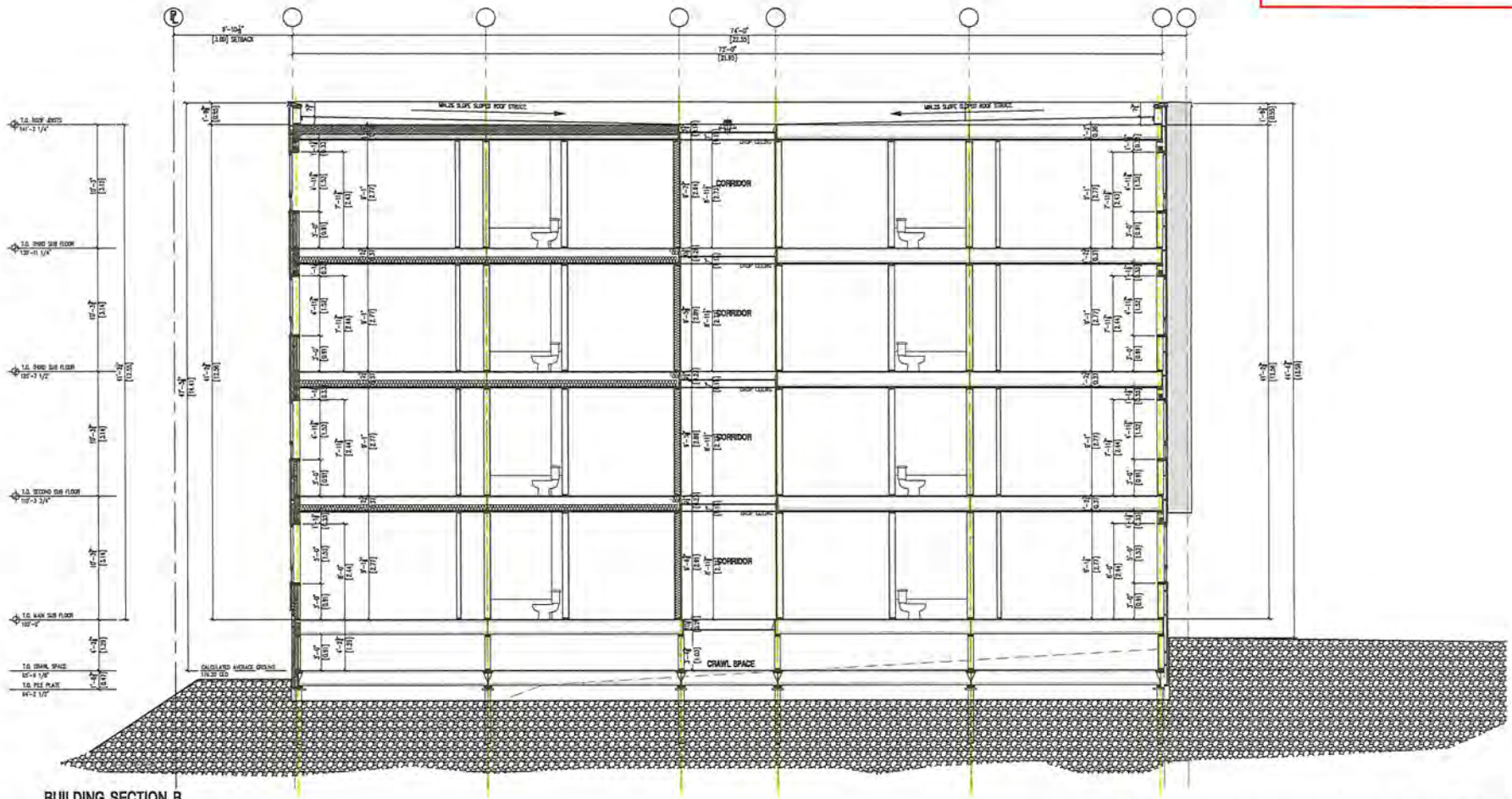
ISSUE:
 #202, 11121-156 ST., EDMONTON, ALBERTA T5M 1X9



ISSUED FOR DEVELOPMENT PERMIT APRIL 21, 2022
PROJECT:
 THE VIEW APARTMENTS
 PHASE 5 - NIVEN LAKE
 LOT A, BLOCK 307, PLAN 4441
 YELLOWKNIFE N.W.T.
 TEL: 1-780-454-3422 FAX: 1-780-482-2921

DWG:
A1-117
 JOB NO: 21-0400

City of Yellowknife
 Development Permit # PL-2022-0075
 Approved June 17, 2022 (Page 19 of 22)
 Development Officer CHARLSEY WHITE



BUILDING SECTION B
 1/4"=1'-0"

NOTE:
 The contractor shall check and verify all dimensions and measurements of materials shown on this drawing and with other drawings, specifications, and contract conditions. Where discrepancies occur, he shall report same to the designer before proceeding with the work. All drawings and notes shall be the responsibility of the designer and shall be returned to him at completion of the work.

CONSULTANT:

SEAL:

ISSUE:
 #202, 1121-166 ST., EDMONTON, ALBERTA T5M 1X9

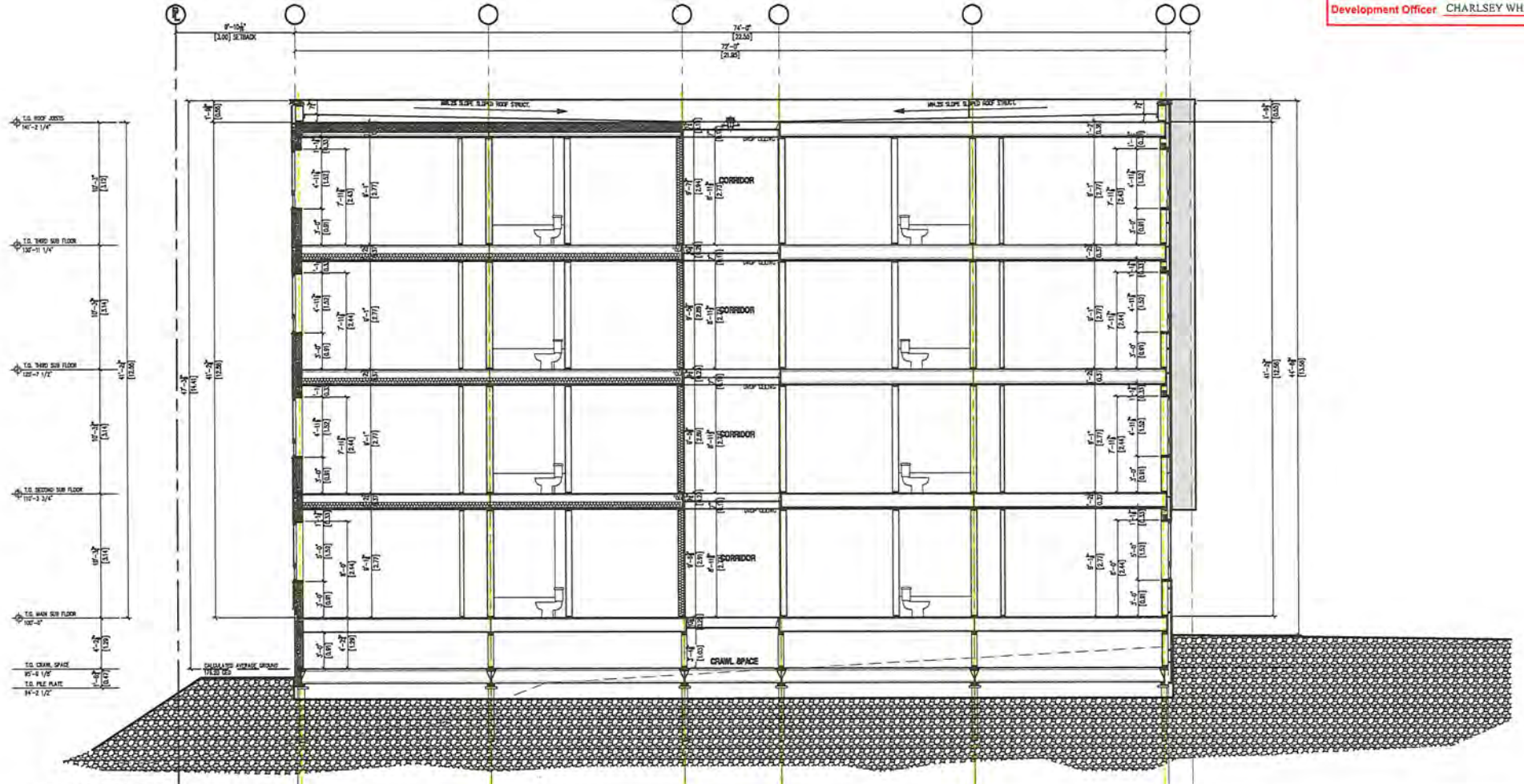
WILLIAM RUTLEDGE ARCHITECT

REVISED FOR DEVELOPMENT PERMIT JUNE 7, 2022

PROJECT: **THE VIEW APARTMENTS PHASE 5 - NIVEN LAKE LOT A, BLOCK 307, PLAN 4441 YELLOWKNIFE N.W.T.**

DWG: **A1-131**
 JOB NO: 21-0400

TEL: 1-780-454-3422 FAX: 1-780-452-2921



BUILDING SECTION B

1/8"=1'-0"

NOTE:
 The contractor shall check and verify all dimensions and elevations of building shown on this drawing and verify other structural specifications, and verify structural notes to the designer before proceeding with any portion of the work to be responsible for each dimension. All drawings and details shown are the property of the designer and shall be retained to them at completion of the work.

CONSULTANT: _____

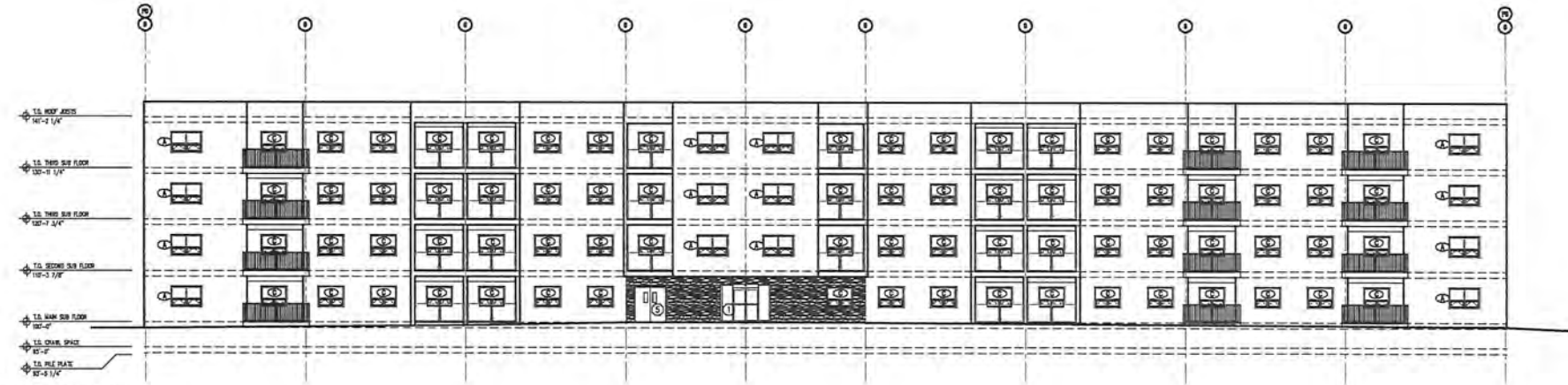
SEAL: _____

ISSUE: _____
 #202, 11121-156 ST., EDMONTON, ALBERTA T5M 1X9

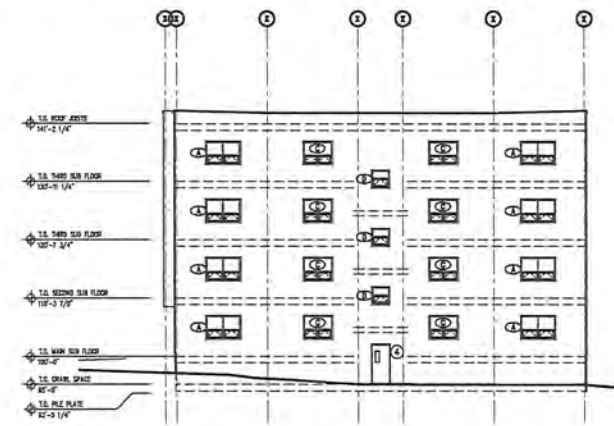
**WILLIAM
 RUTLEDGE
 ARCHITECT**

REVISOR FOR DEVELOPMENT PERMIT MAY 30, 2022
 PROJECT: THE VIEW APARTMENTS
 PHASE 6 - NIVEN LAKE
 LOT A, BLOCK 307, PLAN 4441
 YELLOWKNIFE N.W.T.
 TEL: 1-780-454-3422 FAX: 1-780-482-2921

DWG: A1-131
 JOB NO: E1-0400



EAST ELEVATION
3/8"=1'-0"



NORTH ELEVATION
3/8"=1'-0"

City of Yellowknife
 Development Permit # PL-2022-0075
 Approved June 17, 2022 (Page 21 of 22)
 Development Officer CHARLSEY WHITE

NOTE:
 The contractor shall check and verify all dimensions and measurements of materials shown on this drawing and with other drawings, specifications, and permits. No work shall be undertaken until all required permits are obtained. All drawings and details shown are the property of the architect and shall be returned to him at completion of the work.

CONSULTANT:

SEAL:

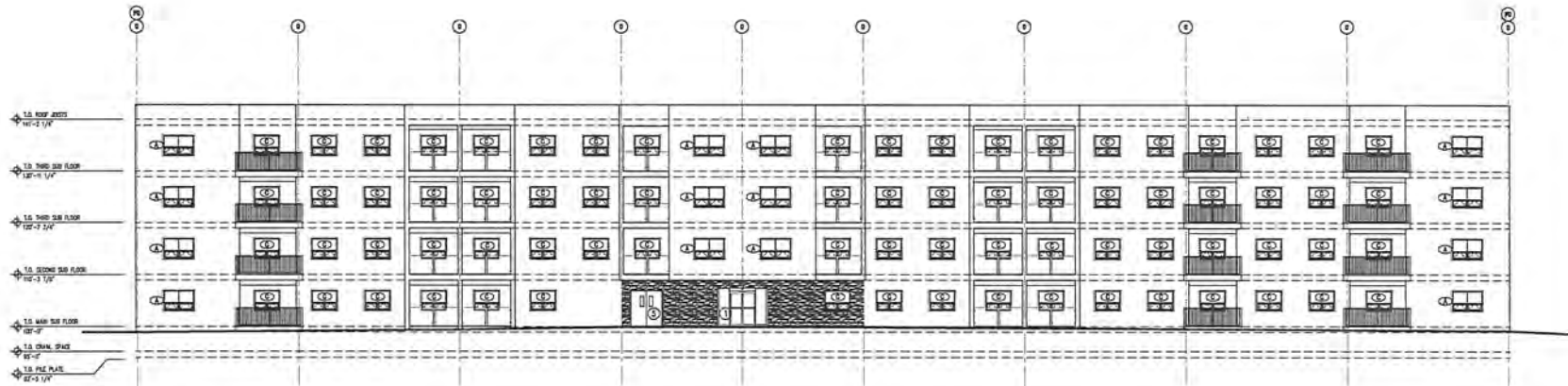
ISSUE:

#202, 11121-150 ST., EDMONTON, ALBERTA T5M 1X9



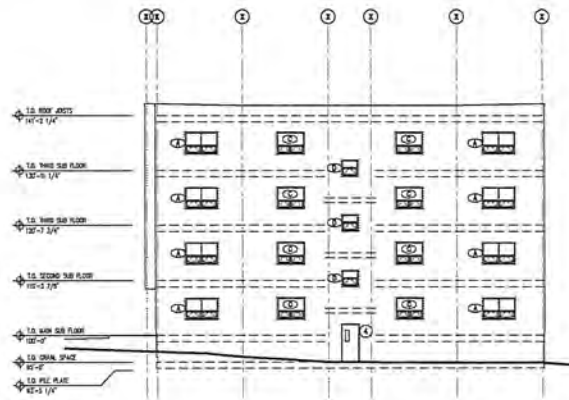
REVISED FOR DEVELOPMENT PERMIT MAY 30, 2022
 PROJECT:
 NIVEN LAKE APARTMENTS
 PHASE 5 - NIVEN LAKE
 LOT A, BLOCK 307, PLAN 4441
 YELLOWKNIFE N.W.T.
 TEL: 1-780-454-3422 FAX: 1-780-482-2921

DWG:
A1-120
 JOB NO: 21-0400



SOUTH ELEVATION

3/32"=1'-0"



EAST ELEVATION

3/32"=1'-0"

City of Yellowknife
 Development Permit # PL-2022-0075
 Approved June 17, 2022 (Page 22 of 22)
 Development Officer CHARLSEY WHITE

NOTE:
 The registrant shall check and verify all dimensions and measurements of materials shown on this drawing and with other drawings, specifications, and program requirements before construction starts, and shall report all the discrepancies to the designer before proceeding with any portion of the work, or by e-mail after the work commences. All drawings and plans issued on the property of the designer and must be returned to him at completion of the work.

CONSULTANT:

SEAL:

ISSUE:
 #202, 11121-166 ST., EDMONTON, ALBERTA T5M 1X9

WILLIAM RUTLEDGE ARCHITECT

REVISED FOR DEVELOPMENT PERMIT JUNE 7, 2022
 PROJECT:
 NIVEN LAKE APARTMENTS
 PHASE 5 - NIVEN LAKE
 LOT A, BLOCK 307, PLAN 4441
 YELLOWKNIFE N.W.T.
 TEL: 1-780-454-3422 FAX: 1-780-492-2921

DWG:
A1-121
 JOB NO: 21-0400

PUBLIC NOTICE

CITY OF YELLOWKNIFE – ZONING BY-LAW NO. 4404

NOTICE OF DECISION

Development Permit Application No. PL-2022-0075, dated the 21 day of April, 2022, for a development taking place at the following location: on Hagel Dr. Niven Phase 5

Lot 11 and 12 (Portions) Block 307 Plan # 4441

Intended Development: Multi-Unit Dwelling (70 Units)

Has been APPROVED subject to following conditions:

1. The Development shall comply with all stamped approved plans and with the executed Development Agreement;
2. Landscaping and hardscaping shall be completed by September 30th, 2024 and maintained for the life of the development, as indicated in the stamped approved plans and Development Agreement;
3. Plants used for landscaping shall be of capable healthy growth in Yellowknife, grown from northern stock, with certification that the plants are grown north of 54 degrees latitude;
4. A Surveyor's Real Property Report shall be submitted to the City prior to occupancy. The Real Property Report must indicate i) all permanent features on site and ii) finished grades at all corners of the lot and buildings and periodic grades every 20m;
5. The property owner is responsible for freeze protection of water lines during construction;
6. Outdoor lighting on the proposed development shall be sufficient only to provide for safety, security, display or attraction. Lighting for any development shall be arranged so that no direct rays of light are projected to adjacent properties or interfere with the effectiveness of any traffic control device;
7. The Developer shall delineate all parking spaces on the property and install on-site signs;
8. The Developer shall delineate and identify with visual indicators a minimum of 3 accessible parking spaces on the property and 1 loading and unloading zone;
9. The Developer shall install waste, compost and recycling bins with screening; and
10. A Water Connection Permit will be required for the water and sewer services to each building. Permit application must include Plan and Profile drawings for the servicing that are signed and stamped by an Engineer registered with NAPEG. For information on the permit contact construction@yellowknife.ca.

DATE of Issue of this Notice of Decision: June 17, 2022

EFFECTIVE DATE: July 2, 2022

Copy
Development Officer

NOTICE:

Any persons claiming to be adversely affected by the development may, in accordance with the *Community Planning and Development Act*, appeal to the Development Appeal Board, c/o City Clerk's Office, tel. 920-5646, City of Yellowknife, P.O. Box 580, Yellow knife, NT X1A 2N4. Please note that your notice of appeal must be in writing, comply with the *Community Planning and Development Act*, include your contact information and include the payment of the \$25 appeal fee (the appeal fee will be reimbursed if the decision of the Development Officer is reversed). The appeal must be received on or before 4:30 p.m. on the _____ day of _____, A.D., 20____.

AFTER THE EFFECTIVE DATE OF THIS PERMIT, THE OWNER OF THE SUBJECT PROPERTY IS AUTHORIZED TO REMOVE THIS NOTICE. ALL OTHER PERSONS FOUND REMOVING THIS NOTICE WILL BE PROSECUTED.

HOW TO DO A PARKING STUDY

A lack of knowledge about parking availability or utilization in a district can inhibit development and access to economic, educational, and recreational opportunity. Local parking surveys typically aim to discern (1) how much parking is provided in a specific study area, (2) how parking is being utilized, and (3) if demand exceeds capacity. Whether in an existing town center or for new development, an accurate inventory of parking availability and use is needed to answer the question of current and future parking demand and provision. Any discussion of parking needs should begin with a survey of existing use. Many simple counts can be accomplished by community staff or local volunteers with minimal training. The guidance below is intended primarily for community staff and local volunteers in designing a survey and collecting parking data.

In addition to identifying who is parking and for how long, parking surveys can also identify the location of unused spaces nearby that could be better utilized. For instance, church parking could be used for overflow parking for the few peak shopping days of the year, rather than building to peak parking needs which will remain empty (and not generating profits and taxes) for most of the year. Surveys are also useful for identifying other programming challenges, such as potential shortcomings of existing signage, spaces where vehicles routinely park illegally, and drainage or other infrastructure flaws rendering spaces unusable.

BUILDING THE SURVEY

WHY DO THE SURVEY?

Before determining the scope of the parking survey, it's helpful to identify the motivations driving the study. In other words, what do you want to know about parking within a specific area and why? Answering this question can help establish:

- the size of your study area,
- the need to inventory public or private, on or off-street parking,
- the need to document occupancy and/or duration,
- the need to understand vehicles' origin
- days of study, whether during the week and/or weekend
- time of interest
- seasons to be documented (spring, summer, fall?)

DETERMINE STUDY SCOPE

Based on your answer to the questions above, you will have identified the proper location, dates, and times to conduct your parking survey. For the integrity of the survey's results, it is critical to document a 'typical day' in the study area. When conducting weekday surveys, this is typically a Tuesday, Wednesday, or Thursday during which there are no known special events occurring and the weather is fair. For instance, parking data could be skewed for a commercial corridor if a restaurant were having its grand opening on the day of data collection. In this case, the information would not be representative of usual behavior because grand openings tend to attract more customers than a standard day. Similarly, it is vital to note the context of the study area.

MAPPING THE ROUTE

Try to walk in the direction the vehicles are facing on the street; this will help facilitate license plate data collection. If multiple people will be par-

ticipating in data collection, ensure that they start and end in the same location, preferably near a coffee shop or library where they can lay over indoors.

INVENTORY EXISTING PARKING

The perimeter of the study area should be informed by the maximum distance someone with business in the center of the area would park and walk, about a 5-10 minute walkshed. If spillover parking is a concern, extend the boundaries by several blocks. Within the study area, be sure to note the number and location of public and/or private parking spaces, as well as existing regulations. If spaces aren't marked, take the maximum number of vehicles parked and estimate how many additional vehicles could be parked without blocking other vehicles, fire lanes, trash receptacles, etc. If needed, estimate the number of spaces using the assumption that each additional parked vehicle will use approximately 25 feet of curb space. The map should also identify no parking areas, locations where parking is metered and the applicable rate, and the condition of signage. Include bicycle parking racks, rings, and all types of equipment specifically designed for bicycle use in this inventory.

STAFFING CONSIDERATIONS

Depending on the size of your study area and the interval of data collection, staffing needs can vary. Be sure to schedule staff on a "typical day" and ensure that they are familiar with the study area and data collection method prior to the day(s) of interest.

DATA COLLECTION SHEETS

Data collection sheets should be numbered and include one line for each parking space. Remember to include landmarks like driveways, curb cuts, hydrants, cross walks, and street names to help data collectors with wayfinding and parking space identification while on their routes. For a sample data collection sheet, please see the attached parking study conducted in Arlington, MA.

CONDUCTING THE SURVEY

LOGISTICS

Routes should be consistent, in that they should begin at the same time (whether on the hour or half an hour) and be walked in the same direction every 30 or 60 minutes. Counts should occur at least 3 or 4 different time periods during the survey day, including all times with peak demand. Depending on the purposes of the study, weekend demand may also be of interest. Data collectors should document improper activity, such as double parking, blocking driveways, unsanctioned loading, etc., and take photos where applicable. See "Sample Instructions" (attached as an appendix) for more information.

CAPTURING DURATION

Knowing how long cars are parked can inform different parking pricing or time restriction policies, may uncover opportunities for sharing spaces, and can provide helpful information to businesses looking to move to an

area. Duration counts require that the first 3 or 4 license plate numbers be documented and that data collectors return frequently (at least once an hour) to a space to record this information. For high parking turnover locations (post offices, banks, convenience stores, etc.), check back every 15 minutes if possible. This is usually best accomplished by numbering all spaces on the map, and by providing both maps and numbered sheets with room to record the partial license plate numbers.

DATA COLLECTION

Record the numbers of cars parked legally, as well as double parked vehicles, those blocking other vehicles in lots, and any large trucks blocking more than one space. To accurately capture demand, count the number of bicycles parked as well.

ANALYZE THE DATA

OVERVIEW

Create a spreadsheet where you can summarize the data that was collected. Keep occupancy and duration results separate, at least initially, by location, time of day and day of week. Graphics and displays on maps will be helpful in explaining results. For an example, see the following section Sample Parking Study: Arlington, MA.

OCCUPANCY

Vehicles parked during a given time period divided by the total number of spaces is occupancy. On-street parking occupancies of 85-90% are usually considered the highest acceptable target, since someone looking for a space will not find an empty one easily. Occupancies above 100% are possible, when vehicles park illegally or in unofficial spaces. Although you will be able to summarize the activity at each parking space, it is often helpful to group data by city block or by row in a parking lot. They can then be grouped by direction (north or south side of street) and type (public or private parking). Occupancy data provides concrete information to support or refute claims of inadequate parking availability. High occupancies in one area combined with lower occupancies nearby indicate an opportunity for parking management. In this scenario, excess demand should be reallocated to the nearby available supply; often, a lack of knowledge of nearby spaces or restrictions on those who can utilize the parking resources contributes to the mismatch between supply and demand.

DURATION

The length of time a car remains in a given parking space is its duration, and can be estimated from the partial license plate information. Calculate the duration for each vehicle observed, and then calculate an average duration for all spaces by parking area and time period. Duration data can be used to understand parking behavior in order to redefine time restrictions and parking fees, and use existing spaces more efficiently. This analysis should reveal if there are different parking behaviors in different areas, and different time periods.

TURNOVER

The inverse of duration, turnover describes the number of cars that can use a space in a given period of time. For example, for an average duration of 15 minutes, 4 different vehicles per hour can park in the designated space. If the turnover/duration remained unchanged, 32 different vehicles could be accommodated in that one space over an 8 hour period.

PRESENTING FINDINGS

SUMMARIZE RESULTS

Create an easy to understand summary that can be shared with stakeholders. Here, charts, maps, and photos can be used to concisely illustrate findings and support a narrative that answers the questions initially motivating the study. As a rule of thumb, results should be compared to an 85% occupancy guideline. If occupancy is above this threshold, demand exceeds supply; if occupancy is below this threshold, supply exceeds demand.

IDENTIFY NEXT STEPS

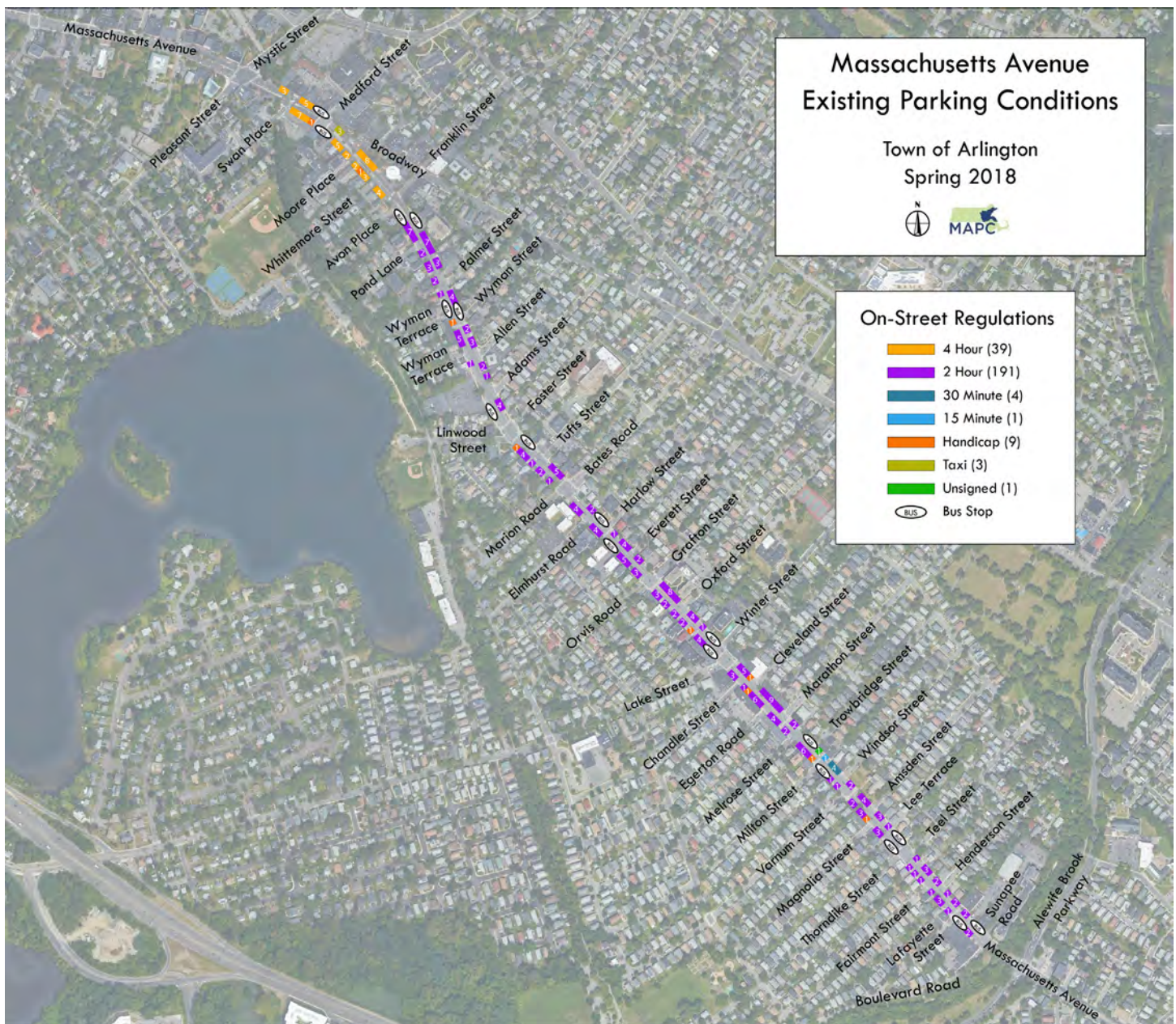
Depending on findings, potential next steps can vary.

- Did the study area exhibit high levels of parking occupancy? *Consider partnerships with underutilized private lots.*
- Is there a surplus of parking? *Consider ways in which the space can be used for more productive outcomes, such as creating a parklet or incorporating green space. Perhaps additional signage is needed to direct people to these locations.*
- Are more parking management techniques needed? *Consider enhancing or updating signage, increasing enforcement, or charging for parking.*

SAMPLE PARKING STUDY: ARLINGTON, MA

Excessive roadway congestion caused the city of Arlington, MA to investigate the feasibility of a priority bus lane to expedite travel times for commuters on board high-volume, high-delay bus routes along the Massachusetts Avenue corridor. Road width permitting, a temporary dedicated bus lane would eliminate parking in the inbound direction during peak morning commute hours to create the necessary space to accommodate the lane. Prior to conducting such a pilot, MAPC, in partnership with the Town of Arlington, and the Massachusetts Bay Transportation Authority (MBTA), completed a parking survey to determine supply and demand during a standard weekday's hours of interest.

The team began by surveying the corridor, noting the number of spaces provided and the regulations of those spaces, and bus stops (see below).



Next, the team created a survey route and data collection sheets (see below). These sheets include geographic descriptions, a row for each parking space, a description of the relevant regulations, and columns for each time period. Please note that each data collection box is large enough to fit relevant license plate information for duration analysis.

Arlington Data Collection
Wednesday, May 9

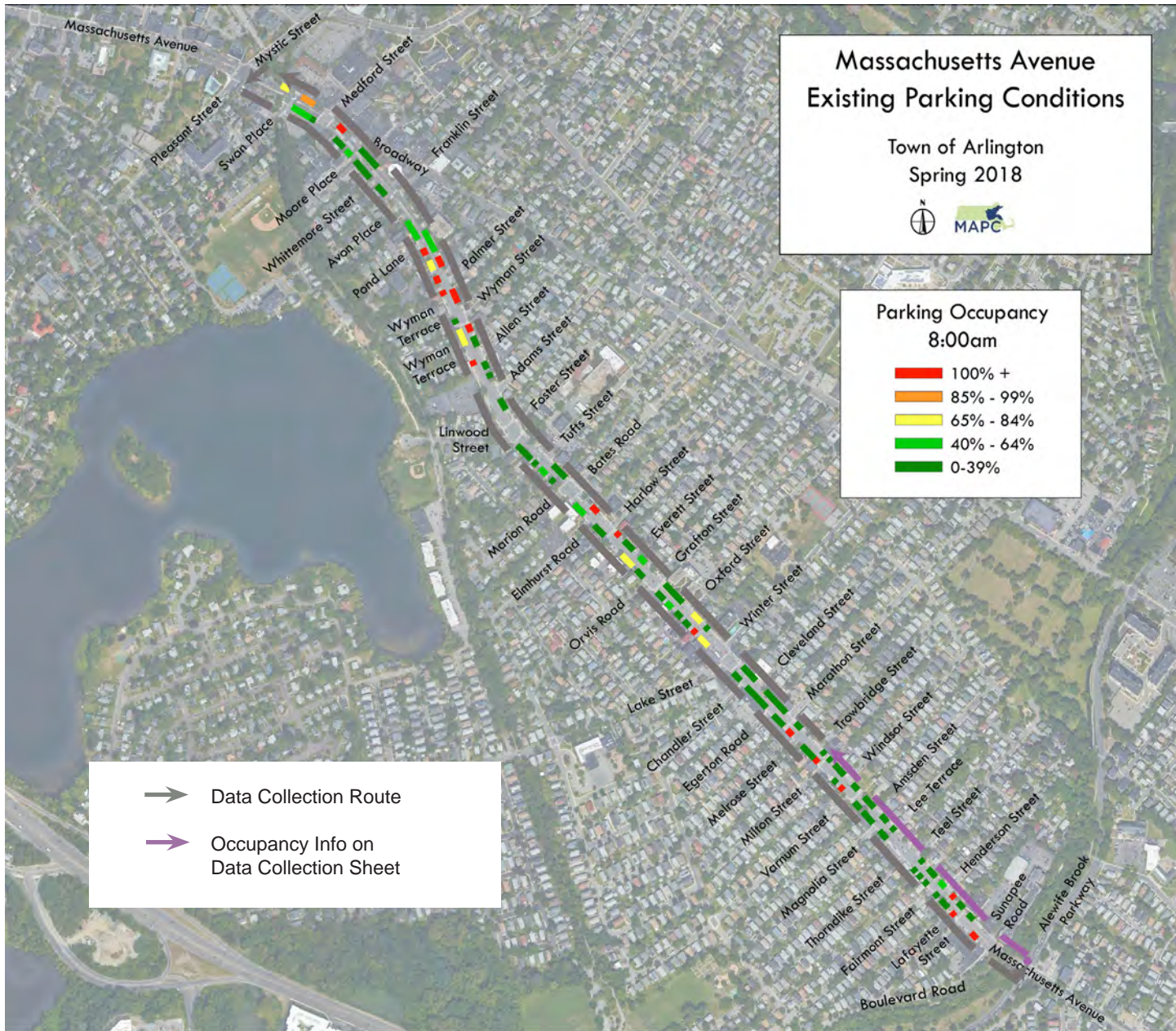
Parking Space	Stripe?	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM
<i>Start on Mass Ave at Route 16, heading towards Arlington Center</i>						
No Parking						
<i>Cross Sunapee Road</i>						
Bus Stop						
<i>Driveway</i>						
2 Hour 1	Y					
2 Hour 2	Y					
Crosswalk WITH CURB EXTENSION						
2 Hour (assume) 1	Y					
2 Hour (assume) 2	Y					
<i>Driveway</i>						
2 Hour 1	Y					
<i>Cross Henderson Street</i>						
2 Hour 1	Y					
2 Hour 2	Y					
<i>Driveway</i>						
2 Hour 1	Y					
2 Hour 2	Y					
2 Hour 3	Y					
<i>Driveway</i>						
2 Hour 1	Y					
<i>Cross Teel Street</i>						
No Standing						
Crosswalk						
<i>Driveway</i>						
Bus Stop						
<i>Cross Lee Terrace (looks like driveway)</i>						
2 Hour 1	Y					
<i>Driveway</i>						
2 Hour 1	Y					
2 Hour 2	Y					
2 Hour 3	Y					
<i>Cross Amsden Street</i>						
2 Hour 1	Y					
2 Hour 2	Y					
2 Hour 3	Y					
2 Hour 4	Y					
Crosswalk WITH CURB EXTENSION						
2 Hour 1	Y					
2 Hour 2	Y					
<i>Cross Windsor Street</i>						
30 Min 1	Y					
30 Min 2	Y					
30 Min 3	Y					
30 Min 4	Y					
<i>Driveway</i>						
15 Min 1	Y					
Crosswalk WITH CURB EXTENSION						
Unsigned	Y					
<i>Cross Trowbridge Street</i>						
Bus Stop						
<i>Driveway</i>						
Hydrant						
Unsigned	N					

On Wednesday, May 3rd, 2018, MAPC collected occupancy data from 6 to 11am. The route, in grey on the following map, began at the intersection of Massachusetts Avenue and Alewife Brook Parkway (lower right corner of the map) and continued north, looping back around at Massachusetts Avenue at Pleasant Street (upper left corner of the map). Walking in the direction cars were facing on the street facilitated data collection, as collectors could easily read the rear license plate information. Occupancy information was recorded as such and corresponds to the purple mapped segment on the following page.

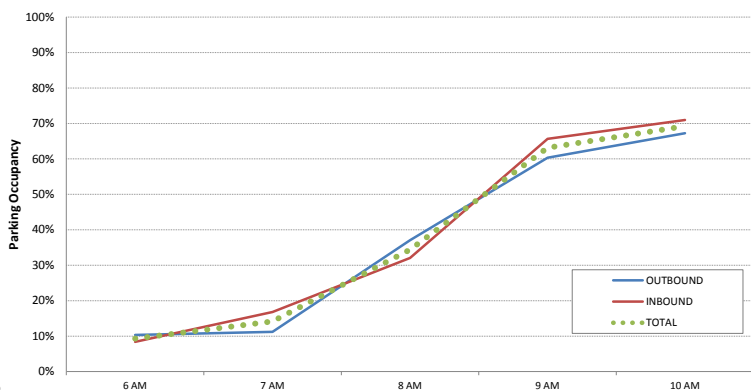
Arlington Data Collection
Wednesday, May 9

Parking Space	Stripe?	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM
Start on Mass Ave at Route 16, heading towards Arlington Center						
No Parking						
<i>Cross Sunapee Road</i>						
Bus Stop						
Driveway						
2 Hour 1	Y	---	---	---	---	RYS
2 Hour 2	Y	---	---	---	---	---
Crosswalk WITH CURB EXTENSION						
2 Hour (assume) 1	Y	---	---	---	HLP	→
2 Hour (assume) 2	Y	---	---	---	---	---
Driveway						
2 Hour 1	Y	---	---	BGR	→	→
<i>Cross Henderson Street</i>						
2 Hour 1	Y	---	---	ABM	→	SRX
2 Hour 2	Y	---	---	---	STQ	DZL
Driveway						
2 Hour 1	Y	LAC	→	---	---	---
2 Hour 2	Y	---	TNS	---	PPQ	→
2 Hour 3	Y	---	---	---	100	→
Driveway						
2 Hour 1	Y	---	---	---	VMH	---
<i>Cross Teel Street</i>						
No Standing						
Crosswalk						
Driveway						
Bus Stop						
<i>Cross Lee Terrace (looks like driveway)</i>						
2 Hour 1	Y	---	---	---	---	---
Driveway						
2 Hour 1	Y	920	→	---	---	---
2 Hour 2	Y	Y09	→	---	---	OPZ
2 Hour 3	Y	---	---	---	---	---
<i>Cross Amsden Street</i>						
2 Hour 1	Y	---	---	---	IIR	→
2 Hour 2	Y	---	---	---	---	---
2 Hour 3	Y	---	---	---	---	FUP
2 Hour 4	Y	---	---	---	---	---
Crosswalk WITH CURB EXTENSION						
2 Hour 1	Y	---	---	---	---	---
2 Hour 2	Y	LBS	→	---	---	---
<i>Cross Windsor Street</i>						
30 Min 1	Y	---	---	---	---	---
30 Min 2	Y	---	---	---	LLD	→
30 Min 3	Y	---	---	---	---	WP3
30 Min 4	Y	---	---	---	---	---
Driveway						
15 Min 1	Y	---	---	---	---	---
Crosswalk WITH CURB EXTENSION						
Unsigned	Y	---	---	---	BQ4	→
<i>Cross Trowbridge Street</i>						
Bus Stop						
Driveway						
Hydrant						
Unsigned	N	---	---	---	---	---

Subsequently, the team performed an analysis of existing use (see below) and determined that there was an adequate supply of parking to meet demand during peak AM commute hours if one side of parking were removed to accommodate the priority bus lane.



**Massachusetts Avenue Parking Analysis
Occupancy vs. Capacity**



Informed by this parking analysis, the Town of Arlington successfully piloted the priority bus lane Monday through Friday, 6 to 9 AM, from October 9th to November 9th, 2018. The pilot was so successful, the morning bus lane is now permanent.

SAMPLE INSTRUCTIONS FOR DATA COLLECTORS

WHY ARE WE DOING THE PARKING STUDY?

The Town wants to know how people are utilizing spaces currently and if they should start charging for parking. The Town is interested in creating a parking benefit district.

SCHEDULE (5/3)

6AM to 1PM: Kayla and John

Please arrive a few minutes early.

DATA COLLECTION

- There are two pre-determined routes, and you will walk the same route every hour. Start your route on the hour.
- Note only the first or four three digits of the license plate
- If the same vehicle is present the next hour, use an arrow to the next box. If there is no car in the space use an X or a dash.
- Your first route will take you the longest, as you get familiar with the route and process

DOWN TIME

- You will generally be working for 30 minutes, then resting for 30 minutes
- There are some coffee shops for snacks, and Town Hall should have bathrooms for you to utilize.

TRAVEL TO & FROM THE SITE

Try to park outside of the study area. If you park within the study area, park in a quiet (not busy) area and do not include the car in your data collection sheets.

WHAT TO LOOK FOR

- Parking spaces that cannot be used – not wide enough, blocked by something, etc.
- Illegal parking – in no parking zones, in front of hydrants, etc.
- Dangerous parking spaces (note any near accidents while backing up from angled parking spaces, etc)
- Bike use/parking
- Handicap parking – are handicap people using the spaces (are there placards?). Is there loading/unloading space available at this location for people in wheelchairs?
- Any local events going on that may be impacting parking demand
- Trucks loading in parking spaces
- Please take pictures of noteworthy things!! Pictures help immensely and they are a great way to document issues in the report. (cell phone pictures are perfect – no camera necessary)
- Basically note anything and everything that might be helpful as we pull together recommendations for the area – you will be my eyes and ears and there's no such thing as too many notes!

HOW TO RESPOND TO QUESTIONS

- Say you are doing a study for the Town
- Try to stay “under the radar” if possible so people don’t change their parking habits
- The Town will supply a letter that you can show if people are concerned. The Police have been notified as well.
- Bring some business cards in case people want to follow up

THINGS TO WEAR & BRING

- Water
- Snacks/Lunch
- Stuff for sun: Sunscreen/hat
- Comfy shoes (you will be walking about 1 mile each hour). I usually bring flip flops and sneakers so I can change if one pair of shoes is bothering me
- Something to fill your down time (book, music, etc.)
- Phone (you’ll need the camera and clock)

POST-DATA COLLECTION

- Save pictures in job folder
- Send me notes/observations (or write on data collection sheets), or tell me in person

Aurora Deluxe B&B,
Aurora View Tours

Hagel Dr

Hagel Dr

Hagel Dr

Niven Dr

Hagel Drive

Hagel Dr

Lemay Dr

Antyone Ct

Niven Dr

Google





THE LISTING

Parking becomes a flashpoint in housing density disputes

SHANE DINGMAN > REAL ESTATE REPORTER

TORONTO

PUBLISHED MARCH 17, 2021

This article was published more than 1 year ago. Some information may no longer be current.



Cars sit parked on Wells Street In Toronto's Annex neighbourhood on March 15, 2021.

FRED LUM/THE GLOBE AND MAIL

One of the best deals for land in the city of Toronto is the low price paid to park a private car on the public streets in some of Toronto's most expensive downtown neighbourhoods.

But it's a privilege councillors who represent those communities are increasingly denying to newcomers.

The approvals process for the rezoning of 1327-1339 Queen St. East near Greenwood Avenue in the city's east end began in 2016, with the builder, Rockport Group, seeking the go-ahead for The George condos, an eight-storey mid-rise condominium with 80 apartments and eight townhouses. During the summer of 2020, local Councillor Paula Fletcher requested a traffic study to understand the impact the development might have on the permit parking in the surrounding residential streets.

On Feb. 2, under the innocuous-sounding motion, "Realignment of Permit Parking Area 8D to exclude the development located at 1327-1339 Queen Street East," the full council approved a permanent ban on any future resident of George applying for on-street permit parking in the area. The Transportation Services study concluded local parking was 80-per cent full, with 1,488 permits already issued in the 8D area out of 1,842 possible spaces. "This area does not have a history of being waitlisted, meaning the demand for overnight on-street parking permits has never exceeded the supply of parking spaces," the report reads.

To developer Jack Winberg, chief executive officer of Rockport Group, the whole thing came out of left field. "It came up as a surprise to us; we didn't think there's any reason for it," Mr. Winberg said. The motion also required that the builder's marketing materials were to notify potential residents that they would not be able to get permit parking. Mr. Winberg said that condition couldn't be met for buyers who had already purchased their units years ago. "We're now getting ready to register our condominium - it's 90-something per cent sold!" he said of the building, which has 71 parking spots on site for residents, and an additional five spots for visitors. "We had parking for three quarters of our purchasers, so it's only going to affect a small number of people. But we have heard from a couple who have cars, and would like to park and are upset about this."

Ms. Fletcher says she's been applying permit-parking exclusions to rezoning application sites since 2005 (a church conversion on Jones Avenue). In recent years her fellow downtown councillors, such as Gord Perks and Mike Layton, have asked for and received parking exclusions for projects in their wards too. About a half-dozen times a year a new "realignment" is created banning future residents from local streets (there have already been five realignments in 2021).

“Basically, new development should not overwhelm the existing character of the neighbourhood, of the streets that are often at 80 or 90 per cent permit parking from residential, low-rise,” Ms. Fletcher said. “When we’re thinking in a bigger way about introducing a lot of density on a main street like Queen ... we’re introducing that density because there’s transit there. There’s spaces the developer has to supply based on planning requirements, so there really should be no reason why anybody would need to park on the street.”

Some frame the issue as one of increasing density putting pressure on the scarce on-street spaces in “stable” downtown single-family home neighbourhoods (where studies have shown population numbers are actually declining.) But it might also be pointed out that on-street permit parking is incredibly cheap.

That annual fee for on-street parking for a homeowner’s first vehicle (if you have no on-site parking) is \$201.72, or about 55 cents a night. If it’s your second car, it’s \$676.52 a year, or about \$1.70 a night. If it’s just for convenience (you have on-site parking available) it’s \$881.40 a year, or \$2.40 a night. True, drivers don’t get to choose where their spot is with on-street parking; it could be in front of their house (the average price in Toronto-Danforth is \$1.4-million) or it could be two streets away, but that chunk of asphalt under the car remains the cheapest land to occupy in the city.

The city of Toronto has about 40,000 permitted spaces and in 2019 the city made \$9,847,130 from on-street permits, most at the \$201 annual rate. By comparison, the 19,000 spaces run by the Toronto Parking Authorities (TPA) commercial on-street parking program generated \$46-million in profits on revenues of \$57-million. (TPA is the city’s third-largest revenue earner, number one being property taxes).



A parking permit is displayed on a car's windshield in Toronto on March 15, 2021.

FRED LUM/THE GLOBE AND MAIL

Monthly spot rentals can be had for \$200 or more a month. If you prefer to own a private space in a condominium parking garage the prices range between \$35,000 and \$100,000, according to listings on [Realtor.ca](https://www.realtor.ca). For \$35,000 you could keep your car on a city street for 174 years at the current rate for permits.

“What irks me is that a new resident is seen as a second-class citizen with fewer rights,” said George Popper, an architect who specializes in infill development and has seen previous projects of his excluded from on-street parking.

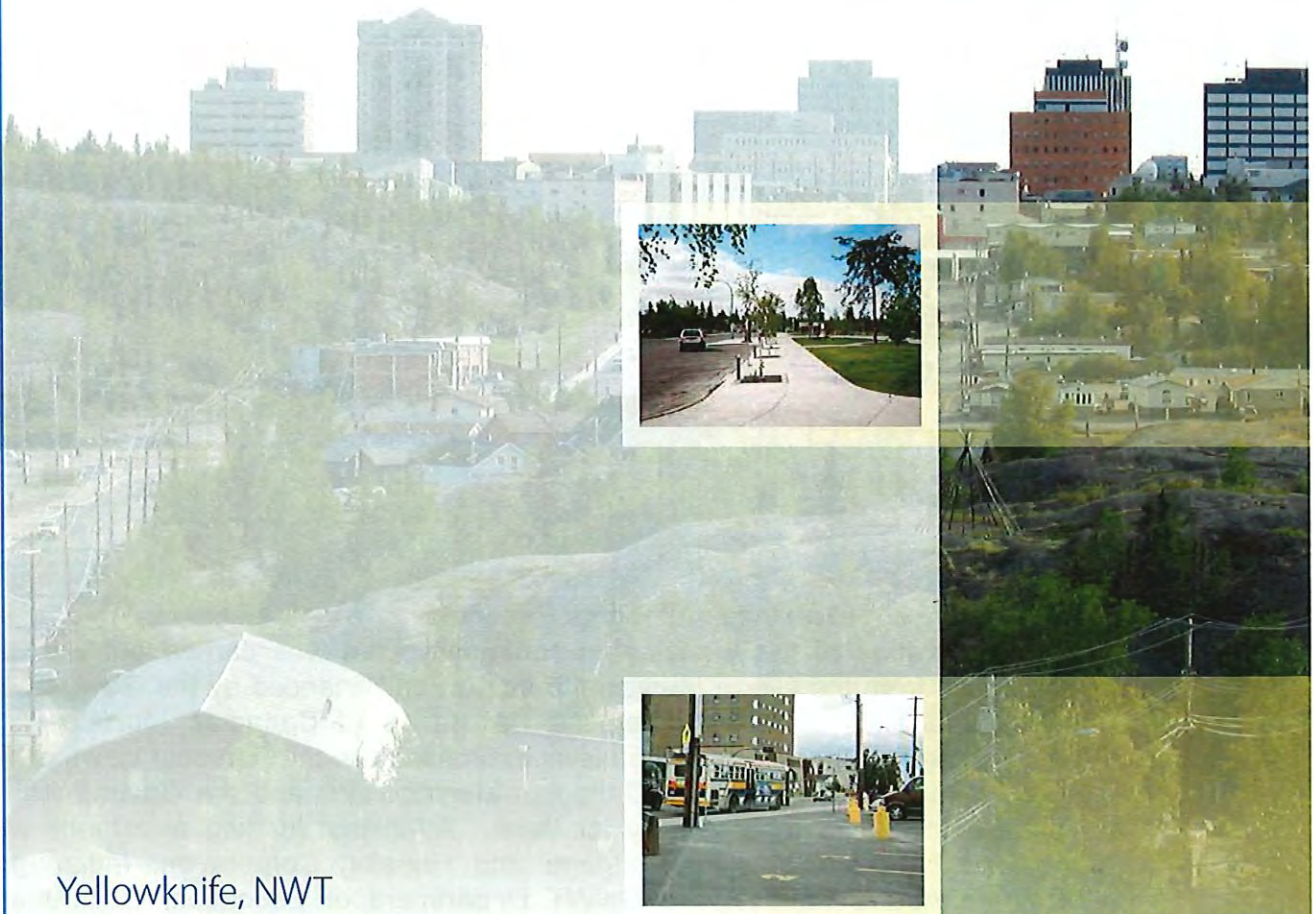
“We’ve reached a saturation point for permit parking,” Ms. Fletcher argues. She said she is encouraging more car-sharing by allowing those programs to access permit parking spaces and is pushing for more bike-lanes and transit service.

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**SMART
GROWTH
PLAN**

Smart Growth Development Plan Transportation Improvement Study



Yellowknife, NWT



The City of Yellowknife

July 2010

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The preparation of this sustainable community plan was carried out with the assistance from the Green Municipal Fund, a Fund financed by the Government of Canada and administered by the Federation of Canadian Municipalities. Notwithstanding this support, the views expressed are the personal views of the authors and the Federation of Canadian Municipalities and the Government of Canada accept no responsibility for them. Additional funding assistance was provided by the Canadian Mortgage and Housing Corporation, Indian and Northern Affairs Canada, the GNWT Department of Education, Culture and Employment and the City of Yellowknife.

City of Yellowknife

**Smart Growth Development Plan
Transportation Improvement Study**

Yellowknife, NWT

July 2010

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EXECUTIVE SUMMARY

The Transportation Improvement Study (Study) provides a long-term view of the transportation needs for Yellowknife. It is a high level strategy and was developed within the context of the Smart Growth Development Plan, which is a planning initiative to facilitate the long-term growth and development of Yellowknife. The 50 year vision – “To create a safe, clean, green, and livable city with a strong ‘northern’ identity” – sets the scene for the long-term study.

The current population is 19,000 people with total households of close to 7,000 and jobs of 11,000. The proposed growth is 33,000 people for the Intermediate-term and 50,000 people for the Long-term. In the Long-term, the proposed households are expected to grow to approximately 17,100 with total jobs of approximately 28,000.

The study includes all modes: pedestrian, cycling, transit, trucks, and vehicles. The study scope includes: a review process to overview previous work; an extensive data collection process which included traffic counts and origin–destination data; assessment of the existing network; issue identification; development of a travel demand model and manual for City use; formulation of long-term strategies for three land use scenarios (hybrid, compact, and dispersed); review of parking in Downtown and Old Town; development of a preferred strategy and associated implementation plan and high level costs. The compact scenario was the preferred land use growth scenario. An example site concept was prepared together with other consultants.

There was an extensive public consultative program led by the City where the Project Team participated and received feedback. The Team also participated with and received feedback from the Smart Growth Committee.

The preferred long-term strategy is shown in **Exhibit E-1**. This was developed using the Smart Growth principles as context, making the best use of existing infrastructure, looking at implementation in a staged manner that could adjust as mode shift occurs; balancing the need for infrastructure upgrades with a view to providing options for active modes; and strengthening and emphasizing the relationship between land use planning and transportation.

The long-term strategy will not be implemented instantly – it will be an incremental investment that reflects Yellowknife’s Smart Growth vision. A framework has been provided for Council and City staff to work within in pursuit of this vision in the Implementation section of this report.

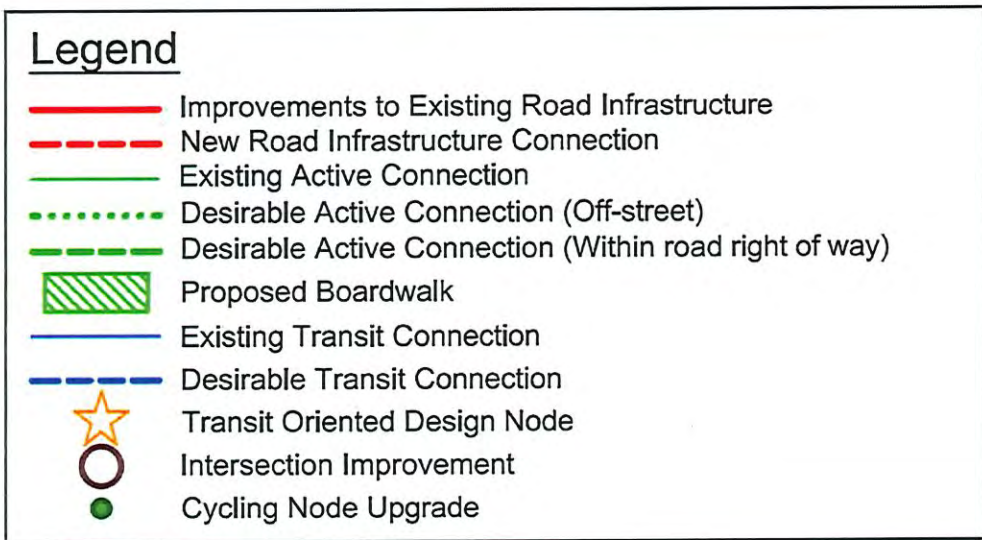


Exhibit E-1: Refined Long-Term, Compact Scenario – Proposed Improvements



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Introduction





1. INTRODUCTION

Yellowknife (“city”) is the capital of the Northwest Territories, situated on the north shore of the Great Slave Lake near the outlet of the Yellowknife River. With a population of 19,000 spread across a land area of 136 km², Yellowknife acts as the major economic, government, tourism, and transportation hub in the territory. As a leading northern community, the City of Yellowknife (“City”) has identified a long-term sustainable growth strategy as a key planning tool to ensure short-term decisions are made in the context of a long-term sustainable growth model. This growth strategy will require land use, infrastructure, environmental, and transportation challenges to be identified and overcome throughout the next several decades. To proactively address these challenges, the City has developed a *Smart Growth Development Plan*, a planning initiative to facilitate long-term growth and development of the city.

HDR Corporation (HDR | iTRANS) was retained by the City to complete the *Transportation Improvement Study* (“Study”) within the framework of the *Smart Growth Development Plan* (“Plan”). The *Study* focuses on primary areas that include Old Town, Downtown, Tin Can Hill, and Old Airport Road. Despite the focus on these specific areas, they must be reviewed within the context of Yellowknife as a whole. This includes other geographical areas such as the low-density residential neighbourhoods, industrial zoned lands, reclaimed mines, the airport, and recreational spaces. The *Study* is a high level planning study for Yellowknife’s transportation network in the context of the *Plan* process. It is the type of study often referred to as a transportation master plan or strategy.

1.1 Vision

***“To create a safe, clean, green, and livable city
with a strong ‘northern’ identity.”¹***

This 50-year vision, developed as part of the *Plan*, required the City to pursue a blend of objectives. Such objectives included environmental conservation programs, integrated land use, and transportation planning to address the priorities of growth while safeguarding the environment. The vision is integral in promoting a high quality of life for residents of all ages by increasing the diversity and quality of choice for housing, transportation, social programs, and green spaces. The following transportation related goals are central to the vision¹:

- More compact development near key urban nodes in favour of a more efficient development pattern and transportation system;
- More friendly transit land use planning and development;
- Increasing opportunities for active and sustainable transportation;

¹ MetroQuest, Yellowknife: 50-Year Vision, January 2009



- More investment in active and sustainable transportation in favour of reducing private vehicle travel;
- Roadway expansion – not just for private automobiles but for more sustainable modes such as walking, cycling, and transit;
- Promotion of walkable neighbourhoods; and,
- Increasing and implementing policies and programs to encourage the use of active and more sustainable transportation modes.

Based on these goals, the priority for the City is the gradual creation of compact development in the Downtown, Old Airport Road, and Con Mine / Tin Can Hill areas while providing improved transit infrastructure and service, path enhancement programs, and supporting active transportation policies.

Yellowknife is a small city and most destinations are within 10 km. Average travel times are short, and residents are accustomed to small commutes. As the limits of development expand, commute times, congestion, and other *big city problems* may become apparent. Yellowknife needs to plan now to accommodate more residents and jobs while enhancing liveability.

1.2 Challenges

There are many challenges and obstacles that must be overcome to attain the ultimate vision of the City of Yellowknife. These challenges will have to be identified, studied, and ultimately resolved in working towards the long-term vision for the city. Some of the challenges identified to date that impact transportation include¹:

- Ensuring the residents have convenient transportation options;
- Keeping up with aging infrastructure;
- Working to protect precious green space; and
- Meeting the needs of an aging population.

1.3 Current Initiatives

This *Study* as part of the *Plan* is a tool that will help future decision making, and guide the public and City staff towards their vision. However, the City has proactively undertaken some recent projects that support and demonstrate the vision described by the community:

- The construction of the extension of Deh Cho Boulevard to Highway 3 to create an alternative for truck traffic to bypass to Old Airport Road;
- The construction of the 50th Street Streetscaping Plan that provided for widened sidewalks, curb extensions, decorative street furniture, and tree planting (streetscaping has been on-going in the city for many years);
- The implementation of an anti-idling bylaw and education program; and,
- The extension of the multi-use trail network on the south side of Highway 3 east of Old Airport Road.



1.4 Global Context

A number of emerging issues have influenced the City's approach to the *Plan*. Central to these issues is the concept of sustainability. Originally defined in 1987 by the Brundtland commission, sustainable development is meeting the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable development has taken on increasing importance in how cities in Canada and around the world approach their planning activities. Sustainability can be attained by balancing the needs of the economy, society, and the environment while enabling improvements and changes to be maintained over the long-term. Specific emerging issues in sustainable transportation include greenhouse gas emissions ("GHG"), energy and fuel sources, energy efficiency, health, and equity and access.

Fossil fuels consumed by transportation are a major source of GHG emissions. Globally, there has been a move to reduce greenhouse gas (GHG) emissions; at international negotiations in Kyoto and Copenhagen, the United Nations moved towards consensus on GHG reduction global. In Canada, British Columbia has legislated target emission reductions of 33% below 2007 levels by 2020, and 80% below 2007 levels by 2050. This magnitude of target is in line with what is being done in other parts of the world.

Closely tied to GHG are energy and fuel sources. Most energy for transportation comes from oil; oil is a GHG producing non-renewable resource with increasing pressure on both supply and demand. Based on a 2009 assessment by the International Energy Agency (www.iea.org), the known reserves of conventional oil are limited, while demand for oil (or a suitable alternative) is rising. This disparity could be addressed by developing alternative energy sources (including non-conventional oil, undiscovered oil reserves, renewable sources, etc.); using energy more efficiently; or using less (or no) energy all together. All of these strategies will need to be employed to some degree.

Energy efficiency includes technological and planning changes that allow the same task to be done with less energy expended. Advancements in the automotive industry have reduced fuel consumption and provided alternatives, such as hybrids. Electric vehicles allow power to be generated in a central location, and may have fewer GHG emissions depending on the source of the electricity. Changes in planning also result in greater energy efficiency; shifting travel from drive alone to transit or walking accomplishes the same task (travelling from a to b) with much less energy expended. Micro-transportation (electric wheelchair, neighbourhood zero emissions vehicles, electric bicycles) can facilitate trips that would normally be made by more energy intensive private autos.

Transportation sustainability also has health impacts. Collisions, which generally increase per vehicle kilometre travelled, negatively impact both society and the economy, causing injuries, time off work, and increasing health care costs. Air



pollution is also linked to health care costs. Finally, active transportation (human-powered transportation, such as cycling or walking), has health benefits from time spent exercising.

Sustainable transportation must also consider impacts on society, especially transportation equity and access for all. A sustainable transportation network provides access for those that cannot drive, especially the elderly and children, and features infrastructure that can be used by all, such as wide sidewalks and accessible buses. People with disabilities may find it difficult or impossible to travel in areas with poor sidewalk connectivity or in any network where single occupancy vehicles have been the focus of investment.

1.5 Report Organization

This *Study* describes the review of existing conditions, public consultation, model forecasting, transportation analysis, and implementation recommendations completed as part of the *Plan*.

The report is divided into 13 sections, as follows:

1. Introduction;
2. Study Process;
3. Data Collection;
4. Public Consultation Process;
5. Existing Transportation Network / Infrastructure;
6. Existing Traffic Conditions;
7. Existing Issues;
8. Future Land Use;
9. Future Traffic Conditions;
10. Preferred Long-Term Transportation Strategy;
11. Implementation Strategy;
12. Conclusions and Recommendations; and,
13. Glossary.



Study Process



2. STUDY PROCESS

This section describes the role of the Transportation Improvement Study in the larger planning process, the goals and objectives of the Study, and how the Study was undertaken by the City and consultant team.

2.1 Role of the Transportation Improvement Study

The *Study* is a high level strategy for the transportation network in Yellowknife. According to the *Best Practices for Technical Delivery of Long-Term Planning Studies in Canada*,² transportation master plans and strategies are, “the guiding documents that address the long-term transportation needs and programs of a municipality or region as a whole. A transportation master plan identifies the transportation goals of the community...”³. Transportation Master Plans typically set goals and objectives, identify challenges, assess the impact of changes to land use, develop strategies, and determine where more specific studies are required. In many cases, these studies include some level of transportation demand forecasting, network analysis, and stakeholder consultation. Master Plans do not typically include recommendations for small scale improvements; rather, they identify gaps and challenges, and point to projects to address these challenges through further study.

As discussed, the *Study* is part of the *Plan* which serves as an overall community plan. The environmental and land use concepts as well as the goals and policies developed inform the *Study*. The land use concepts directly impact the transportation demand forecasting, and resulting infrastructure needs and strategies. This *Study* incorporates and builds upon the transportation aspects of studies such as the Community Energy Plan (2007) and the Integrated Parks, Trails, and Open Space Development Study (2005).

The outcome of the *Study* will be strategies and a high level implementation plan, including direction for future, more specific studies. The relationship between these different levels of studies, as published by the Transportation Association of Canada (“TAC”) is shown in **Exhibit 2-1**. Specifically, the Smart Growth Plan is at the same detailed level of planning as a community, official, or general plan. This exhibit demonstrates the concept that planning is an iterative process, with each plan acting as a catalyst for others. A transportation master plan may recommend further special or support studies, such as goods movement or travel demand management (“TDM”) studies; studies focused on specific areas or facilities such as corridor plans or neighbourhood plans; or budgeting studies such as development charge studies.

² iTRANS Consulting, *Best Practices for Technical Delivery of Long-Term Planning Studies in Canada – Final Report*, Ottawa: Transportation Association of Canada, 2008

³ iTRANS Consulting, *Best Practices*, 2008 p 28

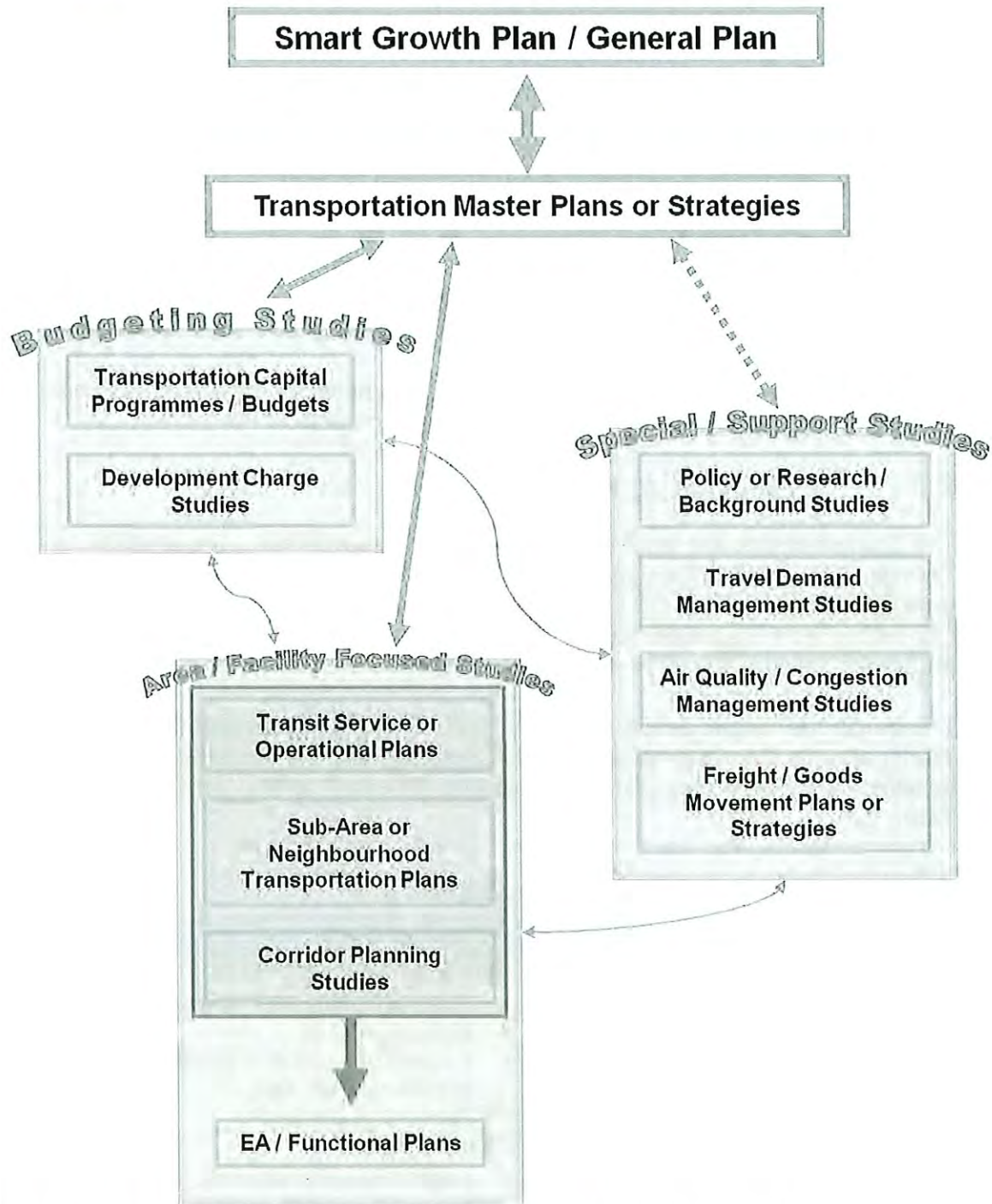


Exhibit 2-1: Relationship between Transportation Plan Types⁴

⁴ iTRANS Consulting, *Best Practices*, 2008 p 33



2.2 Goals and Objectives

The overall goal of the project was to provide a transportation system improvement plan to accommodate city growth to a long-term population goal of 50,000. Within the context of the larger plan, there were a number of smaller goals:

- Review and analyze the existing transportation network;
- Understand the impacts of growth and changes to the projected land use on the transportation system;
- Assist in choosing appropriate growth scenarios for transportation analysis through expert opinion and public consultation;
- Understand the future traffic demand and transportation needs under these scenarios; and,
- Recommend future policies and transportation network improvements consistent with future needs and the preferred land use scenario.

2.3 Study Organization

The *Study* included the labours of three consultants working in the areas of Transportation, Urban Design, and Environmental. HDR | iTRANS led the transportation effort, EIDOS Consulting led the urban design effort, and Dillon Consulting led the environmental effort. Collaboration between the consultants was paramount to ensure a level of consistency in approach and vision for the future.

The transportation project team, led by HDR | iTRANS, was supported by ME2 Transportation Data and Malatest and Associates who conducted the data collection activities. The team roles and responsibilities for each member firm are described in **Table 2-1**.

Table 2-1: Study Roles and Responsibilities

Firm	Role	Responsibilities
HDR iTRANS	Prime Consultant (Lead Firm)	Strategic Transportation Plan: <ul style="list-style-type: none"> ▪ Existing Conditions Review; ▪ Model/Forecast; ▪ Future Transportation Strategy and Implementation; and, ▪ Public Consultation.
ME2 Transportation Data	Sub-consultant	Data Collection: <ul style="list-style-type: none"> ▪ Origin-Destination Survey; ▪ Manual Turning Movement Counts; ▪ Automated Traffic Recorder Counts; and, ▪ Parking Inventory and Utilization Survey.
Malatest and Associates	Sub-consultant	Data Collection: <ul style="list-style-type: none"> ▪ Supplemental Origin-Destination Survey.



2.4 Study Methodology

The *Study* methodology was as follows:

- Reviewing existing reports and recent work;
- Undertaking an extensive data collection program:
 - Intersection traffic counts;
 - 24-hour corridor counts; and,
 - Origin-Destination Survey.
- Assessing existing transportation network based on literature review of reports, desktop survey, site visits, and traffic analysis;
- Identifying issues based on existing conditions review;
- Developing a travel demand model based on land use estimates;
- Formulating preferred long-term transportation strategies based on the travel demand model forecast and goals of the Smart Growth vision;
- Developing an implementation strategy with high level costs;
- Producing an example site concept (RTL);
- Participating in Public Consultation:
 - Two open houses;
 - Design charrette;
 - Two Smart Growth Committee meetings; and,
- Preparing this final report.

Data Collection





3. DATA COLLECTION

The study began with a review of historical studies and data within the city of Yellowknife followed by an extensive data collection program:

- Review of background documents;
- Collection of field data:
 - Intersection turning movement counts (fall and winter);
 - Automated traffic recorder counts;
 - Parking inventory; and,
 - Traffic control and posted speed review.
- Household Origin-Destination Survey.

3.1 Background Documents

In order to provide context to this study, a comprehensive selection of documents dating back to 1990 was reviewed including studies on bicycling, transit, traffic impact, development and land use, and planning. The following list indicates the key documents that were reviewed:

- City of Yellowknife Smart Growth Plan, MetroQuest, 2009;
- 480 Range Lake Road Traffic Impact Study for Polar Developments, CTS 2009;
- Bicycle Routing for the City of Yellowknife, FSC Architects and Engineers, 2008;
- Yellowknife Transit: Route Analysis Study, 2008;
- Yellowknife Community Energy Plan, City of Yellowknife Administration, 2007;
- WAM Development Group North Shopper's Drug Mart Development Traffic Impact Assessment, Dillon Consulting Inc., 2007;
- Yellowknife Transit System Marketing Strategy, Entra Consultants, 2007;
- Integrated Park, Trails, and Open Space Development Study, Dillon Consulting Limited, 2005;
- Old Airport Road Traffic Study, FSC Architects and Engineers, 2005;
- Yellowknife Airport Development Plan, InterVISTAS Consulting Inc., 2004;
- Range Lake Road / Woolgar Avenue Traffic Study, FSC Architects and Engineers, 2000;
- Niven Lake Development Traffic Impact Assessment, MM Dillon Limited, 1995;
- Latham Island Transportation Study, MM Dillon Limited, 1994; and,
- Traffic Impact Assessment of the Yellowknife Direct Charge Co-op, Stephen MacRae Transportation Engineer Technologist, 1992.



3.2 Field Data

A variety of traffic and parking data was collected at strategically identified intersections and roadway links throughout the city. Traffic counts by day of week, and seasonal counts were undertaken to determine sensitivities of the traffic to these elements. Parking data was collected by way of a formalized count in the downtown core, and parking within Old Town and contained in the Old Airport Road corridor was observed and reviewed without a formalized traffic count.

The detailed traffic count information is provided in **Appendix A** and detailed parking count information is provided in **Appendix B**.

3.2.1 *Traffic Counts*

Two types of counts were undertaken in the fall of 2008 to obtain local traffic volumes and flows throughout the city:

1. Turning movement counts (TMC) were undertaken at 21 strategic intersection locations; and,
2. Automated traffic recorder (ATR) counts were undertaken on five strategic corridors.

Seasonal counts were also undertaken at specific intersections for the purpose of truck traffic analysis. These intersections and all other count locations are illustrated in **Exhibit 3-1**.

3.2.1.1 *Intersection Turning Movement Counts*

For planning purposes, and to be consistent with the methodology described earlier, PM peak period TMCs were conducted at the identified intersections. The counts took place over a 4 day period – Monday, September 29th, 2008 to Thursday, October 2nd, 2008. The TMC data included passenger vehicles, commercial vehicles, and pedestrian movement counts. The system wide peak hour, including all the intersections, was found to be from 4:45 PM to 5:45 PM.

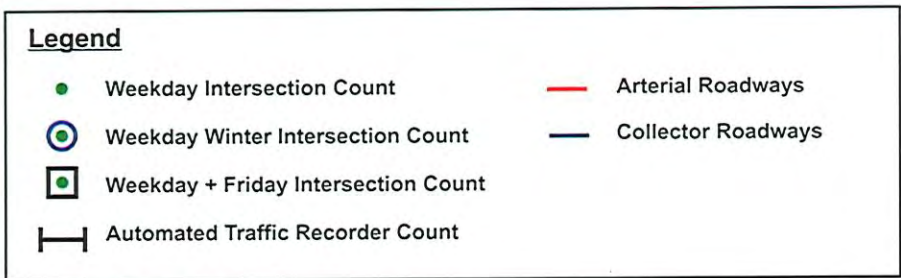
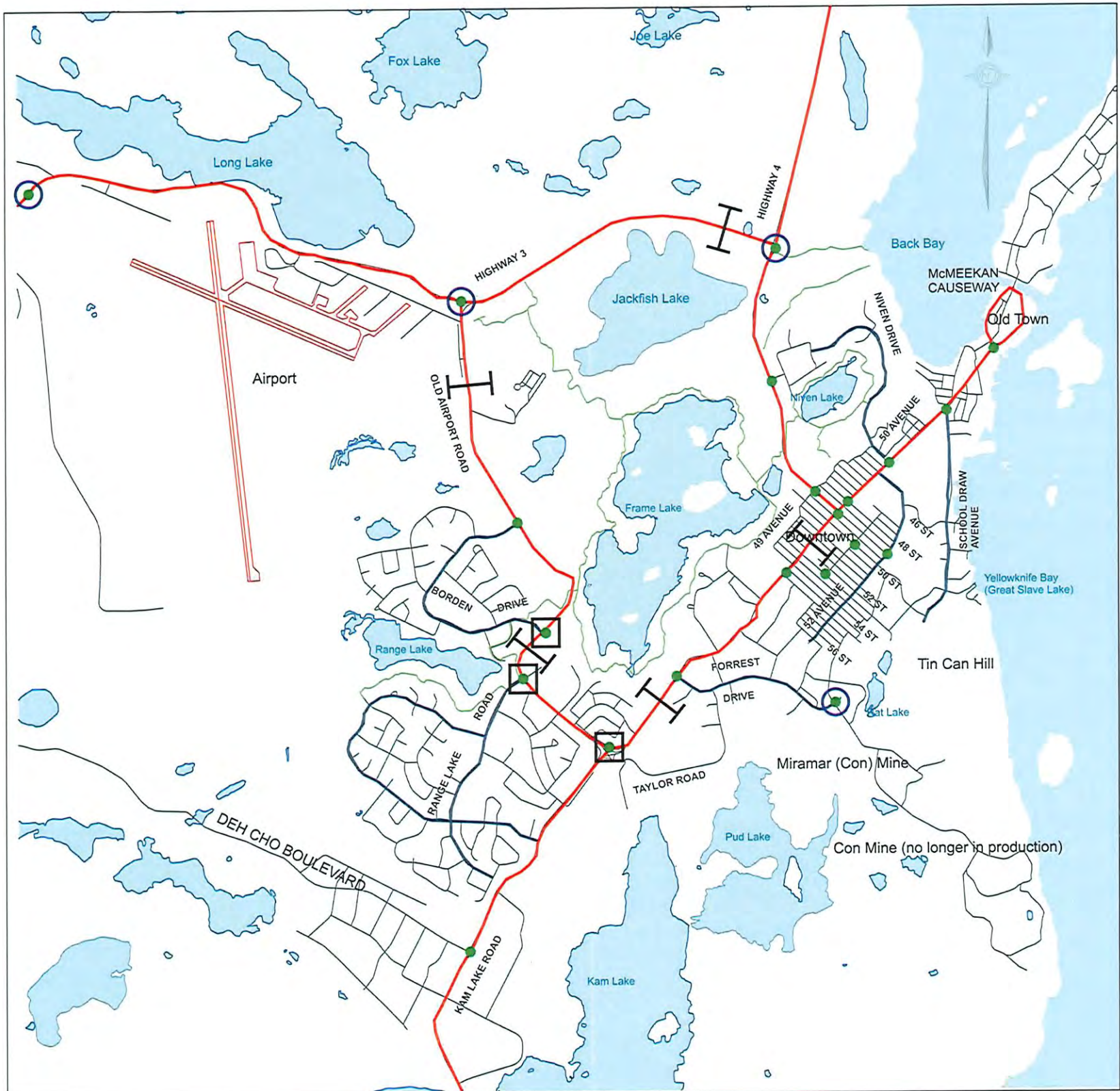


Exhibit 3-1: Traffic Count Locations



As a sensitivity test, three select intersections were re-counted on a Friday to determine if any major traffic patterns or volume increases were present. The count was conducted on Friday, October 3rd, 2008 at the following three intersections:

1. Old Airport Road and Borden Drive (near Wal-Mart);
2. Old Airport Road and Range Lake Road; and,
3. Old Airport Road and Franklin Avenue.

The Friday counts show an overall increase in traffic volumes, ranging from 5% at Old Airport Road and Franklin Avenue to a 17% increase at Old Airport Road and Range Lake Road. The third count at the intersection of Old Airport Road and Borden Drive (near Wal-Mart) increased by approximately 7%. These increases in traffic volume are most likely attributed to typical Friday increases as a result of people leaving work more closely together due to it being the end of the work week, and more people making discretionary trips to the commercial and retail areas.

3.2.1.2 *Seasonal Intersection Turning Movement Counts*

To capture the seasonal variation in traffic, four intersections from the original 21 were chosen for winter TMCs. The winter counts show an overall decrease in traffic volumes, ranging from a 15% drop at Forrest Drive and Con Road to a 30% drop at Highway 3 and Highway 4. The two other counts along Highway 3, located at Old Airport Road and the road accessing the Shooting Club lease area, decreased by approximately 20%. These drops in traffic volumes are most likely directly attributable to the seasonal change and the associated deterioration of driving conditions. These intersection counts were also used in the truck traffic analysis described later in this report.

3.2.1.3 *Automated Traffic Recorder Counts*

The ATR counts captured the daily traffic volumes at five individual corridor locations to determine vehicle travel patterns and volumes at strategic locations around the city. The counts began on Monday, September 29th, 2008 and concluded on Saturday, October 4th, 2008. Full 24-hour data was collected on Tuesday, Wednesday, Thursday, and Friday. The locations of these counts were:

- Highway 3 west of Highway 4;
- Old Airport Road southwest of Borden Drive (near Wal-Mart);
- Old Airport Road south of Highway 3 (adjacent to Bristol Pit);
- Franklin Avenue between 51st and 52nd Street; and,
- Franklin Avenue southwest of Forrest Drive.



3.2.2 Parking Inventory

A parking inventory was conducted for both on-street and off-street parking in the downtown core during the same time frame as the traffic counts, between Monday, September 29th, 2008 and Thursday, October 2nd, 2008. The parking was surveyed at three specific times of the day: 10:00 AM, 12:00 PM, and 2:00 PM. The downtown parking meter locations are illustrated in **Exhibit 3-2**.

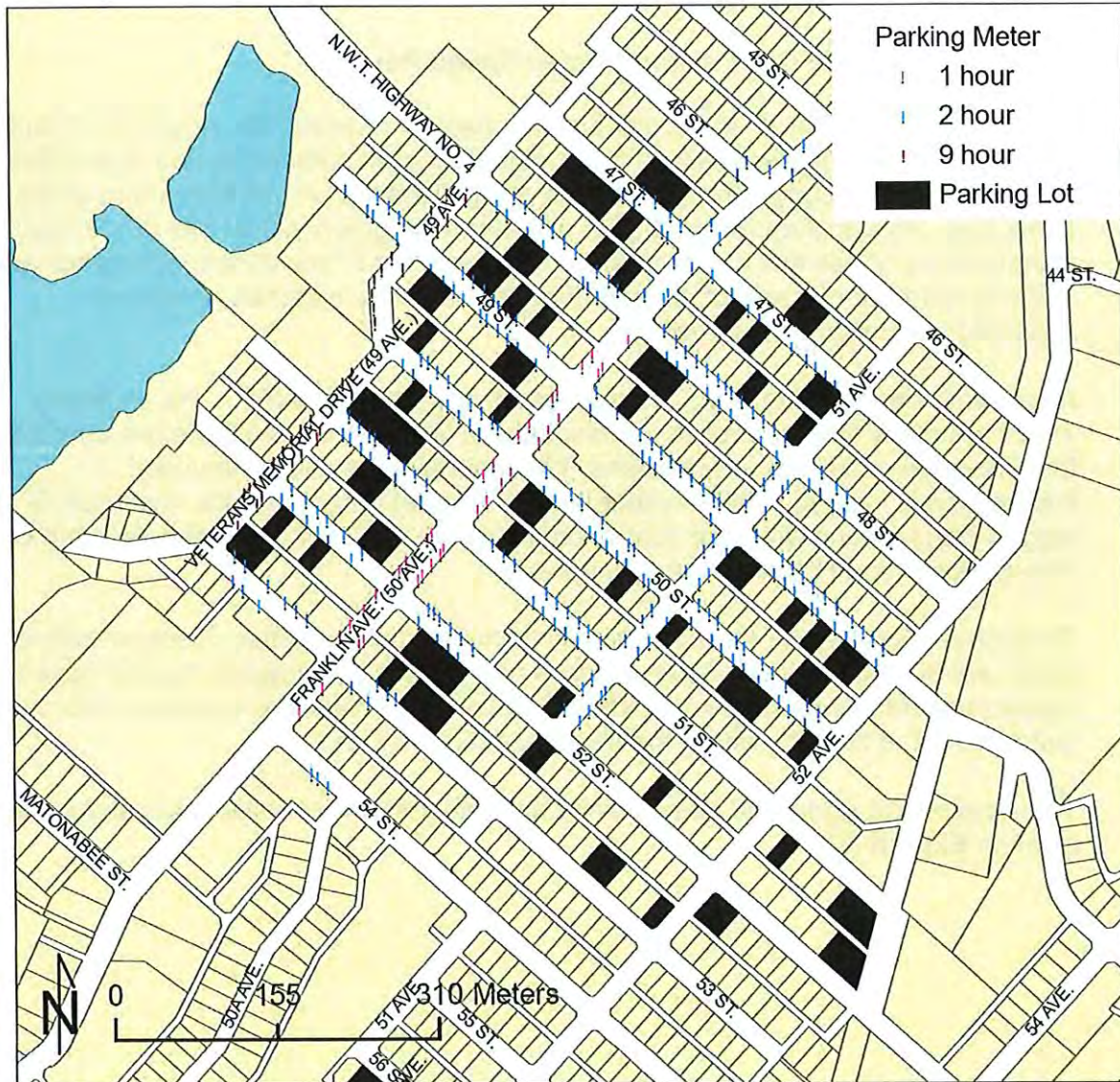


Exhibit 3-2: Parking Count Locations in Downtown Core



One hour parking is only provided along Franklin Avenue from 48th Street to 54th Street. Two hour parking is provided mainly along 49th Street and 50th Street from their north ends to 52nd Avenue. Supplemental two hour parking is available on 46th, 48th, 51st, 52nd, 53rd, and 54th Streets. Nine hour parking is provided along 49th Avenue from 48th Street to 54th Street. There are approximately 50 parking lots, distributed fairly evenly throughout the downtown core. The heaviest concentration of parking lots is bounded by 47th Street, 53rd Street, 49th Avenue, and Franklin Avenue with approximately 20 lots.

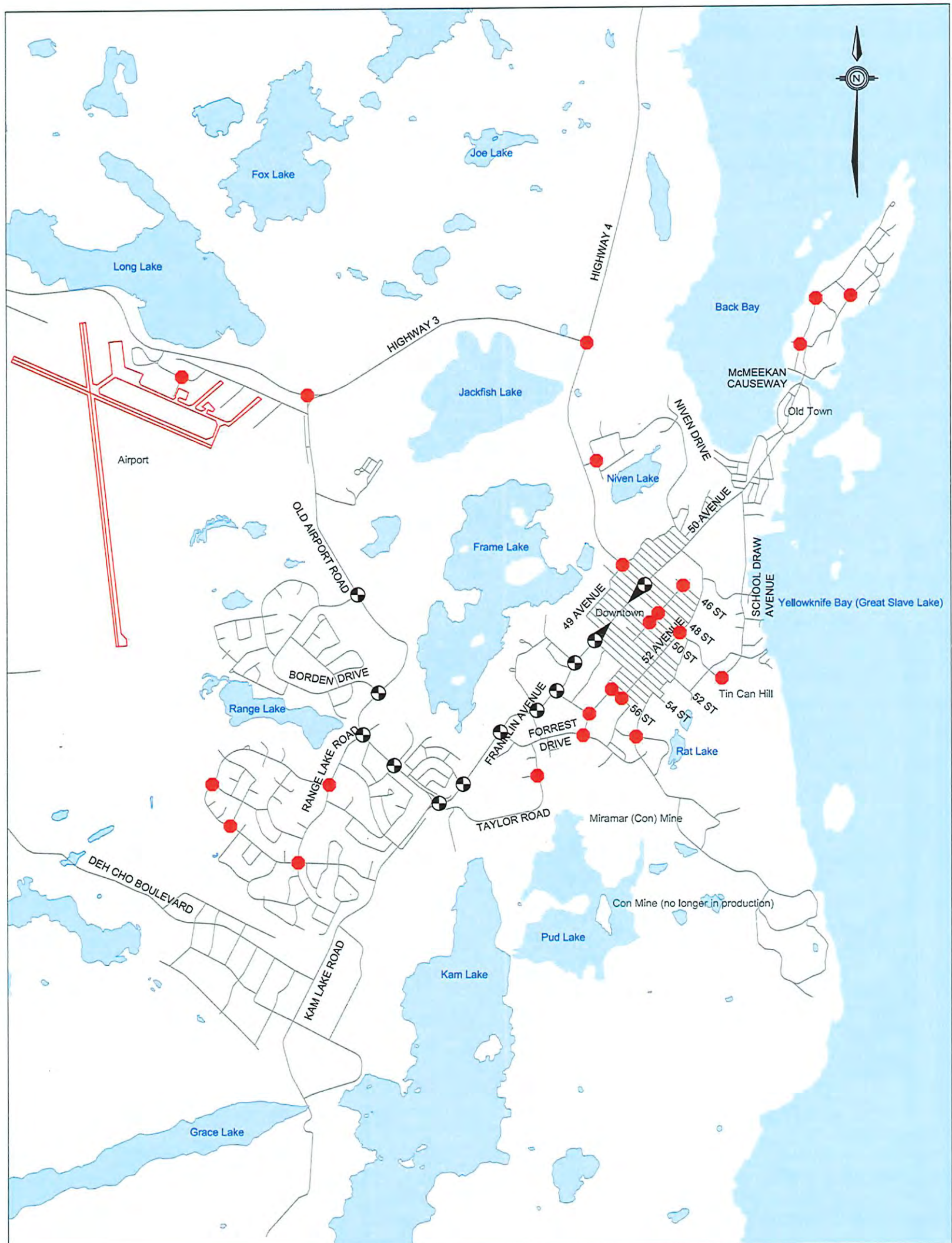
3.2.3 *Traffic Control and Posted Speed Review*

The City has a total of 17 traffic signals, the majority of which are located on Franklin Avenue. There is the possibility of traffic signal co-ordination along Old Airport Road but under existing conditions, the signals along Franklin Avenue turn green at the same time. This is often referred to as simultaneous green indications or identical signal offsets. While this allows traffic to flow for a few intersections, it does not allow traffic to run from one end of the corridor to the other as might be potentially achieved using signal progression.

After traffic signals, stop signs are the next level of traffic control in the hierarchy. There are many stop-controlled intersections in Yellowknife, but there are only a few four-way stop controlled intersections. The main four-way stop controlled intersection is located at 49th Avenue and 48th Street. There are also two main 3-legged intersections with stop control on the single leg; they are Highway 3 and Old Airport Road, and Highway 3 and Highway 4.

Throughout the city, the speed limit is 45 km/h with the exception of school zones which are 30 km/h and Old Town which is also 30 km/h. Highways 3 and 4 have the highest posted speed at 70 km/h. The exception is on Highway 4 between Niven Gate Drive and the city, where the posted speed is 45 km/h.

The locations of signalised intersections and major stop-controlled intersections are given in **Exhibit 3-3**.



Legend



-  Traffic Signal Controlled Intersection
-  Stop Controlled Intersection

Exhibit 3-3: Traffic Signal and Stop Control Intersection Location



3.3 Household Origin Destination Survey

The purpose of the Origin-Destination (OD) survey was to determine travel patterns by mode in the city of Yellowknife. This information was essential input to the modelling process and was used to calibrate the travel patterns.

The main OD survey was undertaken in October 2008 and a supplemental OD survey was undertaken in December, 2008. The survey was by telephone interview using a random sample of households in various locations of the city and participants were asked to describe the trips they had made on the previous day. After data sorting, some households were eliminated because of invalid data. The two survey data sets were combined: the “ME” data set (surveys conducted by ME2 Transportation Data) collected valid entries from 277 households and a subsequent “Ma” data set (surveys conducted by R.A. Malatest & Associates) with valid entries from 103 households, for a total of 380 households surveyed.

Consistent with common OD survey practice, each trip was described in terms of its starting location (origin), ending location (destination), starting trip purpose (e.g., go to work, go to school, return home), mode(s) used (e.g., took transit, walked), start time and end time. Data were collected for trips that were made on a weekday between 7:00 AM and 7:00 PM (the times of greatest activity) and the sample was expanded to represent all households in the city. The OD survey results and subsequent development of the model is further explained in **Section 9**.



Public Consultation Process



4. PUBLIC CONSULTATION PROCESS

Forums were made available to the public for review of information as well as to provide feedback on the *Study*. Before this *Study*, the public involvement began with MetroQuest Report, which was a key component and driver of the *Plan*. Throughout this *Study*, two stakeholder meetings were held, followed by a public open house, a community design charrette, and a second public open house. Two Smart Growth Committee meetings followed.

The stakeholders meetings, public open houses, and the Charrette helped to develop a set of guiding principles and to direct the study in the desired direction of the residents of Yellowknife. The consultation process provided an opportunity for the consultants to present ideas and concepts to the public and for the public to provide their feedback, review the progress of the study, talk with the consultants, and comment on specific areas or general principles. The input and feedback the consultant received from the public at the meetings helped in shaping the study. A brief summary of each of the meetings and consultations is provided in this section. Notes and documented feedback from the public consultation process is provided in **Appendix C**.

4.1 Stakeholders Meetings

Two stakeholders meetings were held in October 2008, comprising different groups of stakeholders with a wide range of representation of various community groups within the city.

The first meeting consisted of two days of discussions on October 2 and 3, 2008. Specific stakeholders included representatives from the Dene First Nations, Yellowknife Chamber of Commerce, NWT Floatplane Association, Ecology North, Transport Canada, and the City of Yellowknife. The list of participants included:

- Shelagh Montgomery – Smart Growth Committee Chair;
- Hal Logsdon – Float Plane Association;
- Jeffrey Humble – Director of Planning, City of Yellowknife;
- Doug Ritchie – Ecology North;
- Blair Chapman – GNWT Transport Canada, Department of Highways;
- Leslie Valpy – City of Yellowknife;
- John Carter – CEO of Dene First Nations;
- Pat Thagard – Yellowknife Chamber of Commerce;
- Peter Neugebauer – City of Yellowknife;
- David McCann – City of Yellowknife; and,
- Stephan Folkers – Dene First Nations, GM of Housing Division.

A second meeting was held on October 21, 2008 with a new group of stakeholders including representatives from the Great Slave Lake Snowmobile Association, Council for Persons with Disabilities, Municipal Enforcement Division (MED),



Downtown Enhancement Committee, Association for Community Living, and the City of Yellowknife. The list of participants included:

- Bruce Hewelko – Great Slave Lake Snowmobile Association;
- Dennis Kefalas – Public Works, City of Yellowknife;
- Grant White – Community Services, City of Yellowknife;
- Shane White – Executive Director, Yellowknife Association for Community Living, Transportation Issues Committee;
- Heather Clark – Northwest Territories Council for Persons with Disabilities;
- Doug Gillard – MED, City of Yellowknife; and,
- Jennifer Marchant – Downtown Enhancement Committee.

All three of the consultant teams were present at both Stakeholders meetings in order to present their scope of work and solicit feedback to help guide and enhance the Smart Growth project.

4.2 Open House #1

A public open house was held in Yellowknife on December 4, 2008. The goal of the open house was to inform the public of the project goals and objectives, educate them on the existing transportation network and data, and provide them with the times where additional opportunities for public input were available.

Five display boards were presented at the open house. They included a key plan showing the existing transportation network, intersection operations and traffic summary, a collision summary, a downtown parking utilization summary, and City of Yellowknife Origin-Destination and 2006 Census information.

The public asked questions and provided comments to the consultant throughout the open house.

4.3 Community Design Charrette

A four-day community planning event (*Design Yellowknife: Community Conversation and Charrette*) was held on Monday, April 27 to Thursday, April 30, 2009 at the Explorer Hotel.

The *Design Yellowknife Charrette* was the primary consultation component of the *Study*, providing citizens the opportunity to develop concepts, which will have a lasting impact on the future growth and development of Yellowknife. Four neighbourhoods were selected as the primary areas of study, including:

1. Old Town;
2. Downtown;
3. Tin Can Hill; and
4. Old Airport Road.



Participants worked in close collaboration with the three consultants as well as with local and national planning and design experts to detail design layouts and identify future strategies which integrate urban design, open space and ecological networks, land use and development density, revitalization opportunities, and transportation in four key neighbourhoods.

4.4 Smart Growth Committee Meetings

Two meetings were held with the Smart Growth Committee, the first on October 1, 2009, and the second on November 19, 2009. These meetings were attended by all three consultants, and provided the opportunity for the Committee to provide feedback into the Smart Growth process.

At the first meeting, the consultants presented the work undertaken to that point in time. The meeting was intended as an informative session where the Smart Growth Committee members could interact with the consultants, ask questions, and provide feedback on any of the material provided.

The second meeting was more of a planning meeting with a view towards the future. Presentations were again provided by all three consultants. These presentations were intended to portray the direction in which the *Study* was headed and to again allow feedback from the Committee in terms of the direction of the *Study*. A secondary objective of the meeting was to provide the Committee with the information that was to be presented to the public at the second open house.

4.5 Open House #2

A second public open house was held on December 3, 2009 at Yellowknife City Hall. The goal of the open house was to update the public on the progress of the study since the first open house and the design charrette.

Eight display boards were presented at the open house including topics on the existing transportation network, future land use, modelling, future transportation strategy, proposed transit improvements, proposed cycling improvements, proposed pedestrian improvements, and proposed roadway improvements.

The public asked questions and gave comments to the consultants throughout the open house. The general consensus was that the *Study* was moving in the right direction.



Existing Transportation Network / Infrastructure



5. EXISTING TRANSPORTATION NETWORK / INFRASTRUCTURE

The existing transportation network is comprised of an active and sustainable mode network, including transit, cycling, pedestrian, skiing as well as other recreational activities such as snowmobiling or canoeing. The road network includes the arterials, collectors, and local roads, which are supported by infrastructure such as parking.

5.1 Active and Sustainable Mode Network

The active and sustainable modes network for Yellowknife is categorized into transit, cycling, pedestrian, and to a lesser extent skiing. The active and sustainable modes network is illustrated in **Exhibit 5-1**. This is not meant to be an extensive map of all trails and paths throughout the city, but to represent the main commuter and recreational trails/paths.

5.1.1 *Transit*

Yellowknife's transit network has three existing transit bus lines. Two of the routes are regular service routes, and the third is in operation only in the summer months and on Saturdays. With a few exceptions, the third route covers the same service area as the other two routes combined. The routes are:

- Route 1 – Borden / Downtown / Range Lake;
- Route 2 – N'Dilo / Downtown / Forrest Drive; and,
- Route 3 – Saturday Summer.

A diagram of the routes is illustrated in **Exhibit 5-2**.

There are a total of five buses serving the community for the three routes with no service provided on Sundays or holidays. There are two express routes for the AM peak and PM peak hours.

From the OD survey, it was recorded that transit use was approximately 1% of the modal share over an entire day, meaning other choices of travel modes are being selected 99% of the time. According to a previous study⁵, the modal share in the peak hours is 3-5%.

Two studies were conducted by Entra Consultants in 2007 and 2008. The first was a marketing study that found three key findings. The first finding was that changes to the bus service were necessary before any social marketing initiatives were undertaken. The second finding was that convenience was the most important factor influencing ridership. The third is that the majority of ridership is made up of work or school trips. The route analysis study reviewed existing service, routes, and fare structure and proposed several new servicing options to encourage ridership growth.

⁵ Entra Consultants, Yellowknife Transit: Route Analysis Study, October 2008.

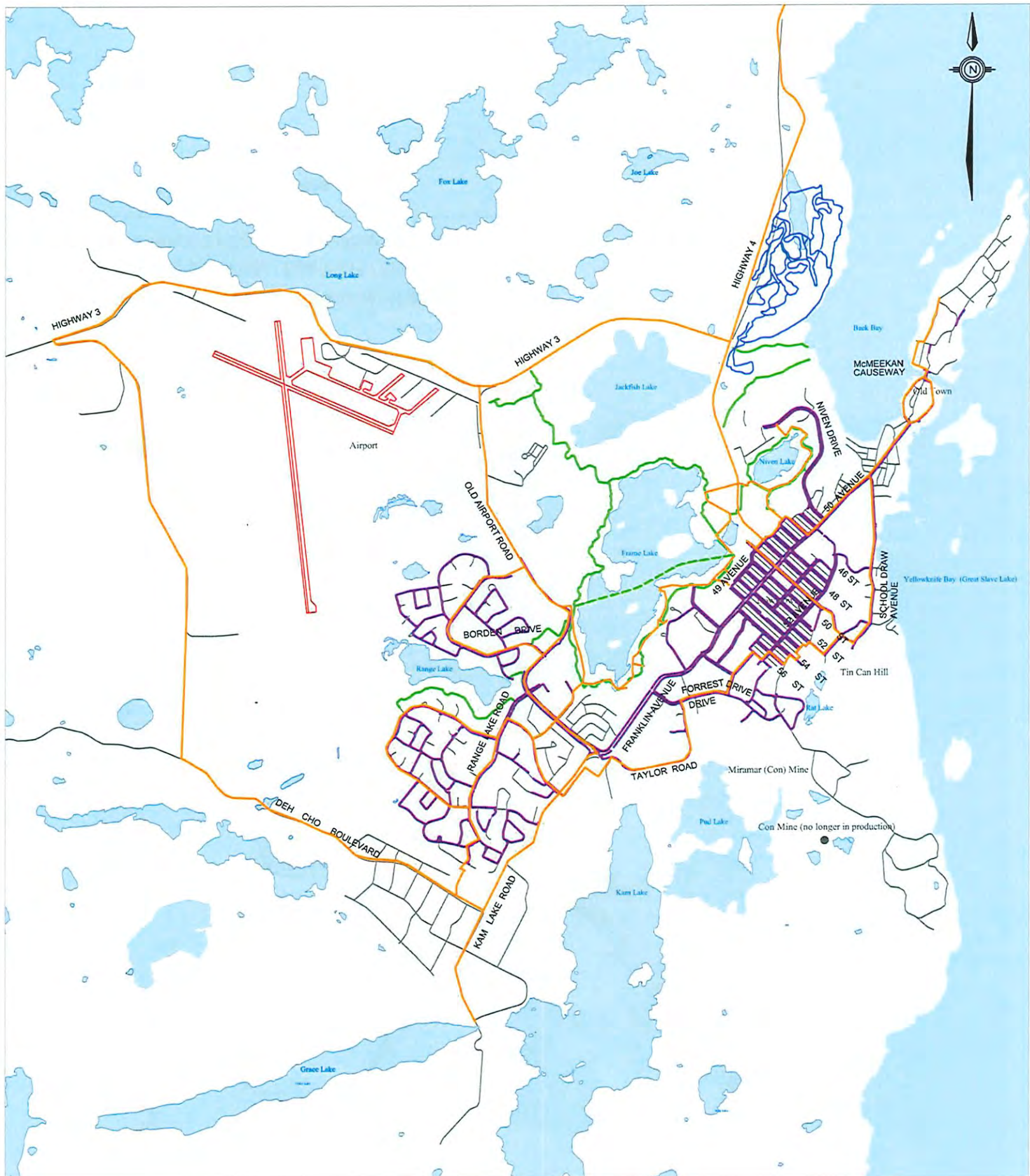


Exhibit 5-1: Active and Sustainable Modes Network

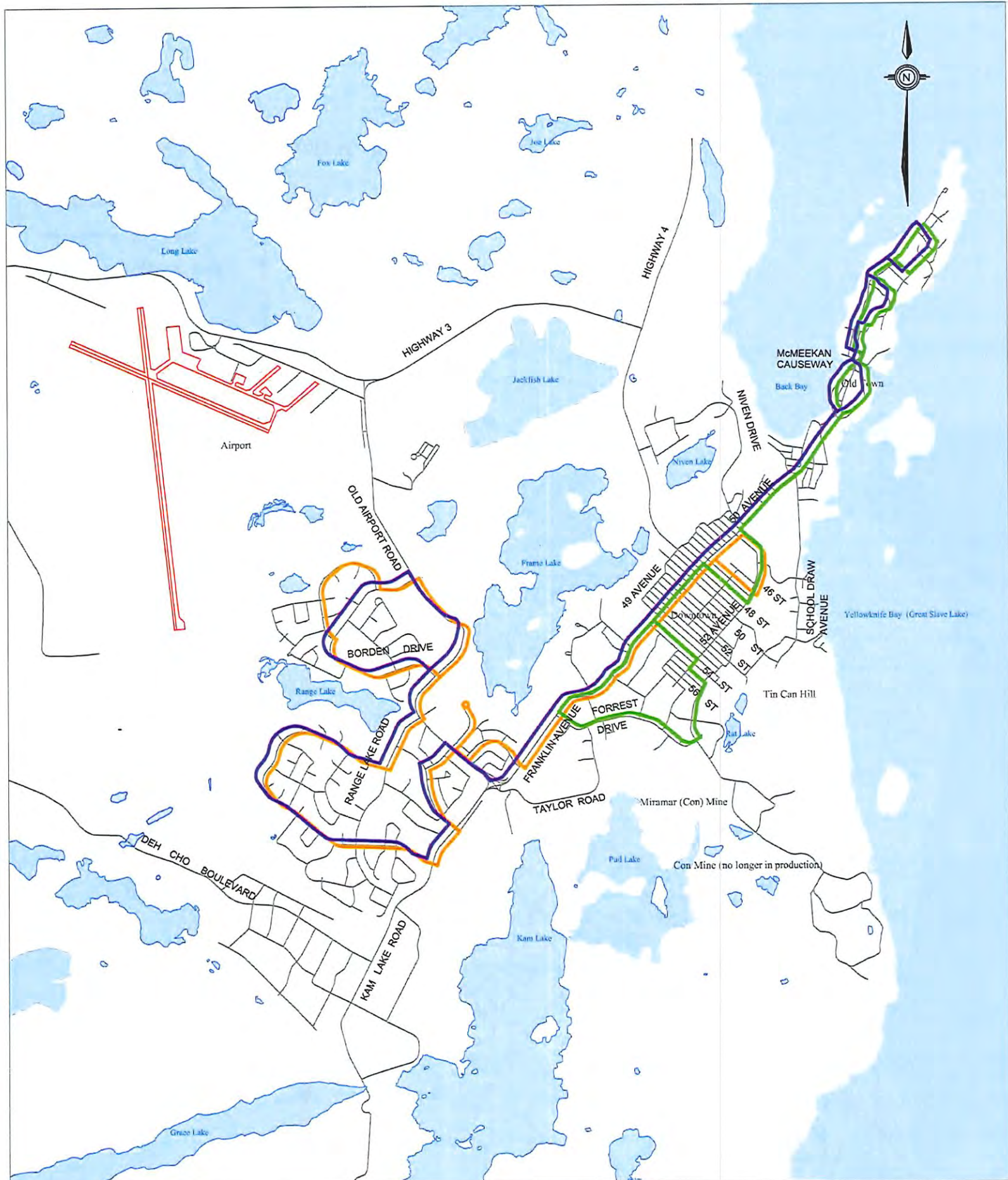


Exhibit 5-2: Existing Transit Routes



5.1.2 *Cycling*

From the OD survey, it was recorded that cycling was approximately 1% of the modal share over an entire day, meaning other choices of travel modes are being selected 99% of the time. However, cycling is a mode of transportation that is growing in popularity. Yellowknife's natural environment and characteristics make it ideal for cycling activities in spite of the long winter months.

Cyclists range in ability and comfort level and not all cyclists prefer the same types of facilities but Yellowknife is conducive to cycling as it is mostly flat with moderate grades in some area. It is a small city and the traffic volumes are relatively light, except on certain routes in peak hour conditions. Counter-intuitively, even the winter months contribute to cycling as the shortened summer fosters an environment of outdoors activity.

Cyclists can typically be divided into two groups: commuter cyclists, who use cycling as a means of transportation to get to work, school, or other destinations; and recreational cyclists. For example, commuter cyclists are more inclined to use roads to travel between their origin and destination as it is often the most direct route, whereas recreational cyclists are more inclined to cycle on trails and off-street due to a more relaxed environment and no conflict with vehicles.

Although cyclists do ride on the streets in Yellowknife, there are no on-road cycling facilities such as bike lanes or even signage to inform cyclists and motorists of the possibility of cyclists using the street. There are several kilometres of multi-use trails that are used by cyclists as well as pedestrians. For example, the Frame Lake trail is used for both commuting and recreational trips. The cycling routes are illustrated in **Exhibit 5-1**.

5.1.3 *Pedestrian*

Yellowknife's pedestrian infrastructure network, including sidewalks and trails is relatively well built and accessible. The majority of roads in the downtown core have sidewalks and Franklin Avenue is a good example of an arterial road downtown with sidewalks on both sides. The multi-use trails connect well with the sidewalk system to allow residents to recreational areas. From the OD survey, it was recorded that walking was approximately 15% of the modal share over an entire day, meaning other choices of travel modes are being selected 85% of the time. This is a relatively high proportion of walking trips for a city the size of Yellowknife.

The industrial areas and roads outside of the downtown core lack some sidewalk continuity or even a sidewalk. Old Town is one area in particular that has few sidewalks or pedestrian facilities.

A winter trail across Frame Lake from the Co-op corner to City Hall is also a well established route used in the winter season. This is not the only winter trail, but it is



a major commuter and recreational trail and therefore was noted as such. The pedestrian facilities are illustrated in **Exhibit 5-1**.

5.2 Road Network

The road network for Yellowknife is comprised of arterials, collectors, and local roads. There are two Highways leading out of the city, Highway 4 to / from the north and Highway 3 to / from the west. Old Airport Road and Franklin Avenue are the major arterials in the city, with Old Airport Road functioning as the gateway to the city from the airport.

The road network provides access to all areas of Yellowknife but there is a limited route choice for drivers. For example, if a person were travelling from the commercial area of Old Airport Road to Downtown, Franklin Avenue is the most viable option as north to Highway 3 to Highway 4 to Downtown is too circuitous. From the OD survey, it was recorded that driving was approximately 72% of the modal share over an entire day, meaning other choices of travel modes are being selected only 28% of the time. **Exhibit 5-3** illustrates the road network for the city including the road type classifications.

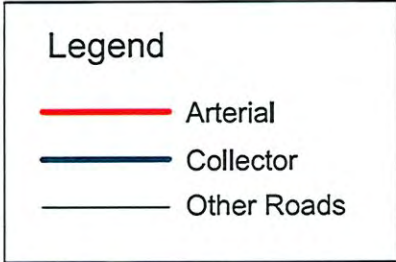


Exhibit 5-3: Existing Road Network



5.3 Parking

There are approximately 18 square blocks of on-street metered parking and non-metered parking in Downtown. There are one hour, two hour, and nine hour parking spaces. 9 hour is only available on 49th Avenue, the one hour is only available on Franklin Avenue, and the remainder of the parking in the downtown core is 2 hours. The City provides and maintains this parking in addition to the off-street parking lots associated with public and private developments. There are approximately 50 surface parking lots in the downtown. In addition, there is an enclosed parkade, which provides a significant amount of parking capacity. It is often underutilized due to perceived safety concerns. **Exhibit 5-4** is an aerial photograph of downtown and provides a bird's eye view of the on-street parking and surface lots.



Exhibit 5-4: Overview of Downtown and Parking

As displayed in **Exhibit 5-5** and **Exhibit 5-6**, on-street parking does not exist on Old Airport Road and the off-street parking is exclusively provided by private lots. These lots serve the strip malls, big box retail, and independent businesses located along the length of Old Airport Road. Internal circulation and accessibility, pedestrian compatibility, and aesthetic appearance are perceived issues in this corridor.



Exhibit 5-5: Wal-Mart and other developments along Old Airport Road



Exhibit 5-6: Pizza Hut and other developments along Old Airport Road



Parking capacity in the Old Town District is limited compared to the availability of downtown and Old Airport Road. The narrow roadways, existing developments, and the availability of off-street parking contribute to the low parking capacity. The unique nature of Old Town greatly contributes to the expectations of drivers and residents alike. There is no formal parking and it is not uncommon to find vehicles parked in the roadway right-of-way. This is particularly true at certain times of day or year, especially near the boat launch on Franklin Avenue or at the adjacent businesses on McDonald Drive as illustrated in **Exhibit 5-7**.



Exhibit 5-7: Overview of Old Town and Parking

5.4 Truck Traffic

Truck traffic is governed by Highway Traffic By-law No. 4063, Section 121, which prohibits the access of trucks larger than 4,500 kg on certain roads. However, road access for trucks is provided for on the following roadways as illustrated in **Exhibit 5-8**:

- Old Airport Road from Highway 3 to Franklin Avenue;
- Kam Lake Road;
- Franklin Avenue from Old Airport Road to 48th Street;
- 48th Street from Franklin Avenue to 52nd Avenue;
- Con Road from Forrest Drive to Yellowknife Bay; and,
- Forrest Drive from Franklin Avenue to Con Road.

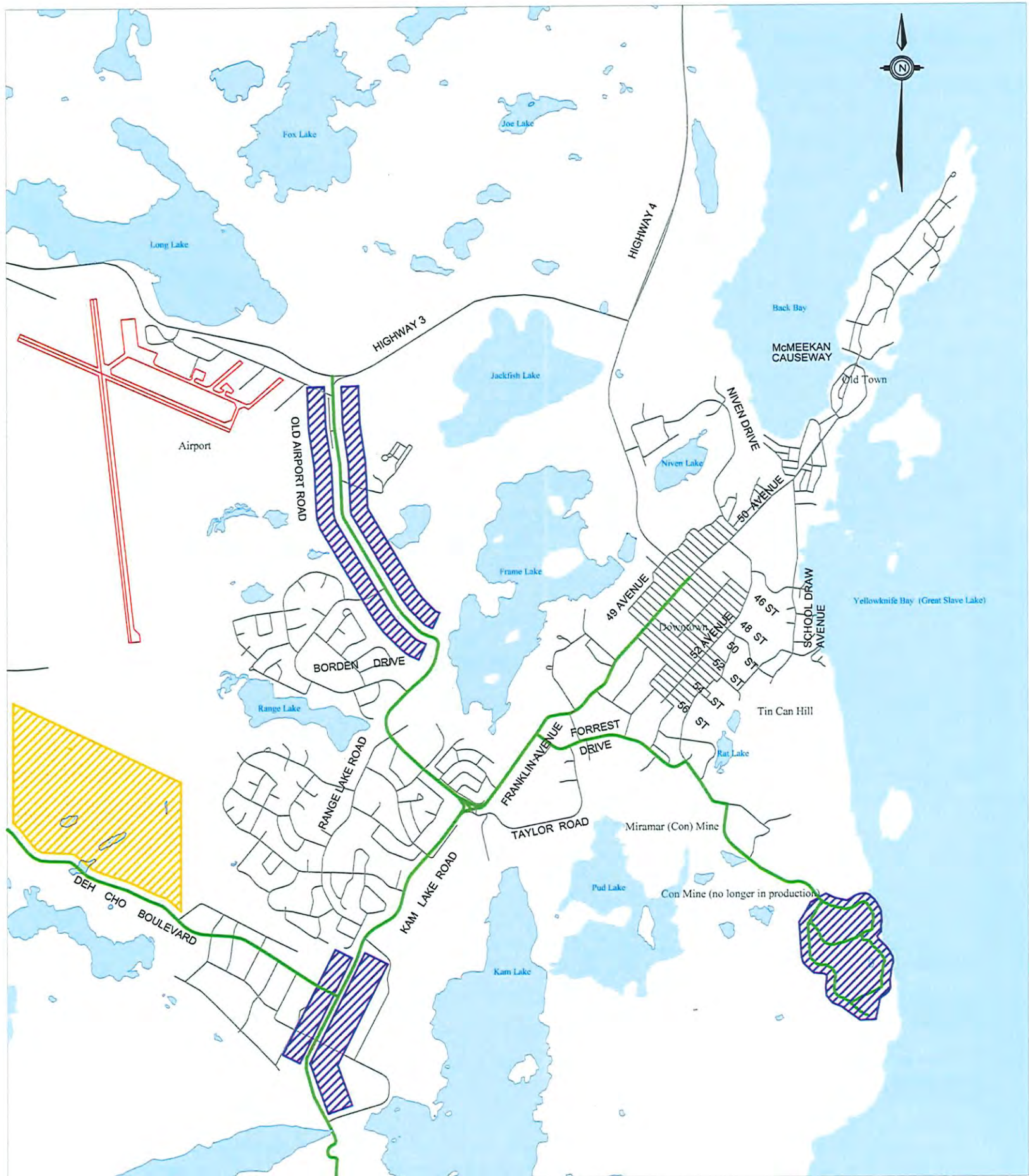


Exhibit 5-8: Existing Truck Routes



Highway Traffic Bylaw 4063, Section 122, states that departures from the truck routes are permitted when travelling the most direct route to a destination for the delivery or pick-up of goods; for moving a house with applicable permit; traveling to / from the truck owner's premises; accessing a servicing or repair centre; towing a disabled vehicle; or accessing the truck parking area on 51st Street between 50th Avenue and 51st Avenue.

Past industrial and land use development within the city has resulted in increased truck traffic in both commercial and residential areas. The existing truck traffic routes serve the lands that are already zoned to allow industrial uses, such as, Old Airport Road, Kam Lake, and the end of Con Road.

With a vision to the future, the City has more recently implemented a plan for industrial expansion west of the Airport, and a rezoning of Old Airport Road to remove industrial uses. In 2008, the Engle Business Park District was established and was followed in 2009 by the Deh Cho Boulevard extension, which connects Kam Lake Road to Highway 3 through the Engle Business Park District. This extension now provides the opportunity for truck traffic to bypass Old Airport Road completely to access the Engle Business Park.

According to City staff, certain roadways and intersections are not currently designed to facilitate truck traffic, despite the need to facilitate truck access to certain areas. For example, the intersection of Forrest Drive and Franklin Avenue is not designed to accommodate large B-train trailers. Further to comments provided by the City staff, truck drivers have identified concerns of the geometry of the Co-op corner on Old Airport Road.

5.5 Other Modes

Due to the city's unique blend of location, climate, and purpose as the capital of the Northwest Territories, it is recognized that there are a variety of other mode choices that are available to residents of Yellowknife. These include float plane, snowmobile, taxis, skiing, sledding, and water craft to name a few.

The float planes are represented by the Northwest Territories Float Plane Association and are currently served in Back Bay by the marina located in Old Town. Plans for a float plane marina on Kam Lake are in the process of being approved.

The snowmobilers are represented by the Great Slave Snowmobile Association (GSSA) Trial Riders. Snowmobiles operate on soft and hard snow conditions but operating on gravel or asphalt is not ideal but can occur. Snowmobiles are restricted to 30 km/h on City roads and 70 km/h on outside of the built-up area. To operate a snowmobile within city limits, the snowmobile must be licensed and insured.

There is a proportion of the population in Yellowknife that does not own or operate a licensed motor vehicle; therefore, taxis are an important part of the transportation



infrastructure. In the past, there has been debate on the number of taxis in Yellowknife and while these issues are not uncommon and certainly not unique to Yellowknife, the importance of taxis in the city should not be underestimated.

Due to the variety and the unique transportation needs of these modes as well as the low percentage of users, it is not practical to evaluate them in the same manner as the standard methods of transportation and therefore detailed analysis will not be included as part of this long-range planning *Study*. These modes are better served by small planning studies at a more detailed level. However, it is important to recognize these modes of travel within the *Study* to ensure they are not overlooked.



Existing Traffic Conditions



6. EXISTING TRAFFIC CONDITIONS

The existing traffic conditions are summarized by collected traffic data, safety analysis, and parking analysis. Truck traffic is addressed in the future conditions, **Section 9**.

[Note – For reference – it has been assumed that Old Airport Road runs north – south; Kam Lake Road and Franklin Ave run east- west].

6.1 Traffic Data Summary

The Turning Movement Count (TMC) data was summarized into link volumes to more easily determine on which roads major flows of traffic are occurring. The traffic volumes are summarized in **Exhibit 6-1**. The traffic volumes are PM peak hour volumes and represent a total number of vehicles during a one hour time period from 4:45 PM to 5:45 PM.

Automatic Traffic Recorder (ATR) count data was also collected and the average daily traffic volumes from those counts are summarized in **Table 6-1**.

Table 6-1: ATR Daily Traffic Volumes

Location	Average Daily Traffic Volumes			
	EB	WB	NB	SB
Highway 3 west of Highway 4	4,032	3,630	--	--
Old Airport Road southwest of Borden Drive (near Wal-Mart)	--	--	6,083	6,665
Old Airport Road south of Highway 3 (adjacent to Bristol Pit)	--	--	5,132	5,602
Franklin Avenue between 51 st Street and 52 nd Street	--	--	7,822	7,818
Franklin Avenue southwest of Forrest Drive	--	--	14,987	10,733

EB = eastbound direction of travel, WB = westbound, SB = southbound, and NB = northbound

South of Forrest Drive, Franklin Avenue had the highest volume of traffic by a significant margin with approximately 3,000 more than the second highest count. There were more vehicles that entered the city (from the southwest) than exited (to the southwest) using this route. In the downtown core on Franklin Avenue, there was a very even traffic distribution of approximately 7,800 vehicles in each direction. The lowest traffic volumes were recorded on Highway 3, west of Highway 4 with 4,032 vehicles travelling eastbound and 3,630 travelling westbound.



Legend
 ← 450 Approach Volume (PM Peak Hour)

Exhibit 6-1: PM Peak Hour Traffic Volumes



6.2 Traffic Analysis

The existing intersections levels of service (LOS) were analyzed given the turning movement count (TMC) volumes and existing signal timings provided by the City.

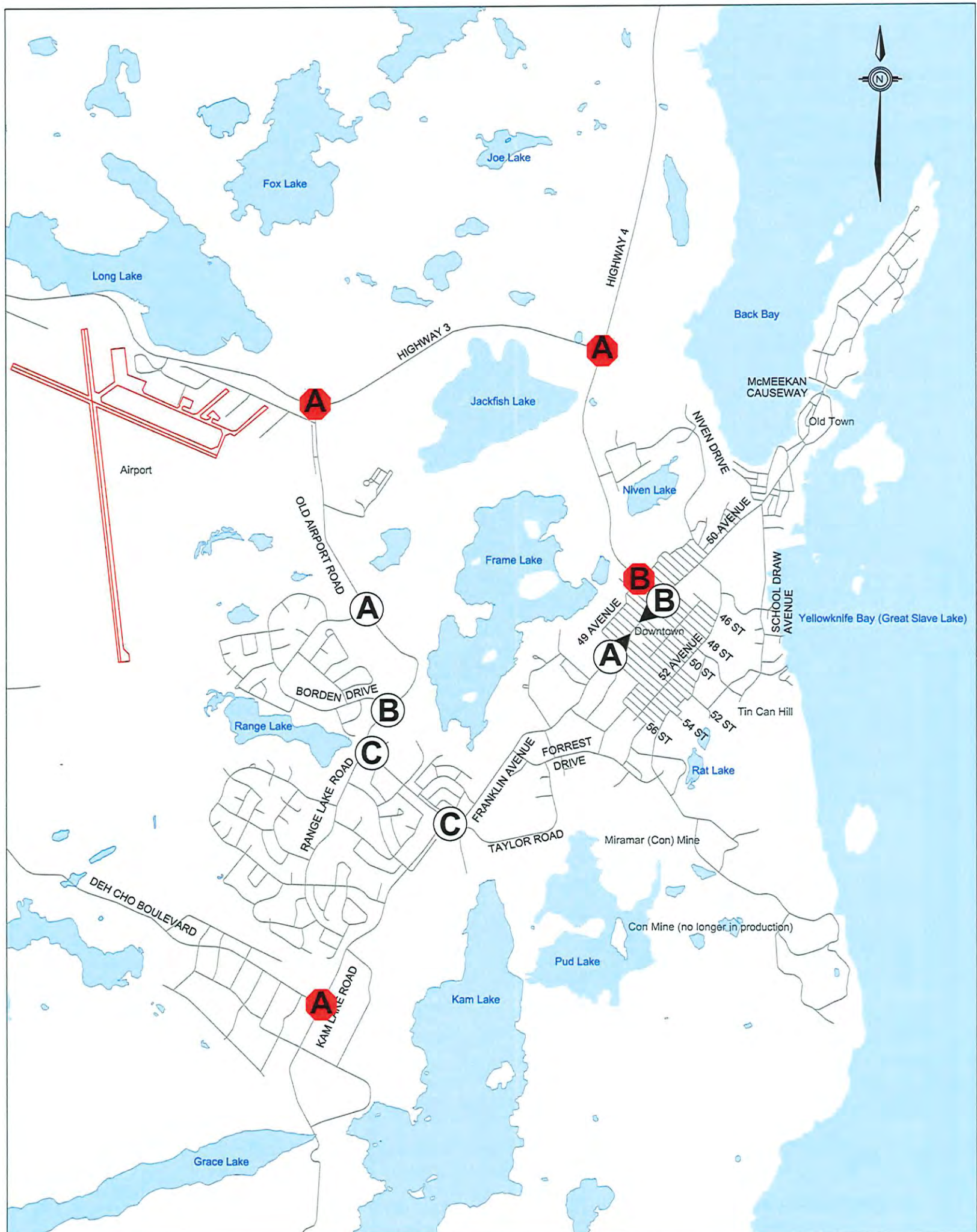
LOS is defined by a letter grade as it relates to the average delay of drivers at an intersection. The grades could be compared to a letter grade of a classroom, where A is excellent, and F is poor. Generally, LOS A to C indicates uncongested traffic conditions and LOS D to F is more congested. The average delay ranges assigned to each letter are shown in **Table 6-2**. LOS can be calculated for each intersection as a whole (intersection LOS) or broken down by movement.

Table 6-2: Level of Service Delay Ranges

Level of Service	Delay Range (seconds)
A	Less than 10
B	11 to 15
C	16 to 25
D	26 to 35
E	36 to 50
F	Greater than 50

Source: Table 10-7. Highway Capacity Manual

Trafficware's Synchro 6 software package was used for the analysis as it employs the 2000 Highway Capacity Methodology, which analyzes both signalized and unsignalized intersections, taking into account the intersection spacing, interaction, queues, and operations at adjacent intersections. This software requires a number of inputs and provides LOS as an output. The intersection analysis results are displayed graphically in **Exhibit 6-2** and the individual turning movement counts follow directly.



Legend	
○	Signalized Intersection
●	Stop Controlled Intersection
A	Level of Service in PM Peak Hour

Exhibit 6-2: Traffic Operations – Intersection Level of Service



For the signalized intersections, the intersection LOS ranged from A to C throughout the city. In the downtown core along 50th Avenue, the signalized intersections at the northeast end operated at a LOS B and gradually the intersection performance improved to a LOS A at the southwest end of the corridor. The worst traffic operations were experienced at the intersections of Old Airport Road and Franklin Avenue and Old Airport Road and Range Lake Road. However, the intersections operated at LOS C, indicating that while busier than other intersections in Yellowknife, the operations were not considered to be congested to a point of poor operation.

For the unsignalized intersections, LOS A was generally consistent throughout the city. An exception was the four-way stop controlled intersection of 49th Avenue and 48th Street, which operated at LOS B. This indicates it is one of the busier unsignalized intersections in Yellowknife but that the traffic operations are not causing poor operation of the intersection.

In addition to the intersection LOS analysis, individual turning movements were also analyzed to provide a more detailed review of the intersection operations and potential constraints.

Table 6-3 provides a detailed breakdown of LOS by turning movement for the following eight key intersections that were analysed:

1. Highway 3 and Old Airport Road;
2. Highway 3 and Highway 4;
3. Old Airport Road and Borden Drive N (near the Home Building Centre);
4. Old Airport Road and Borden Drive W (near Wal-Mart);
5. Old Airport Road and Range Lake Road;
6. 48th Street and 49th Avenue;
7. Deh Cho Boulevard and Kam Lake Road; and,
8. Old Airport Road and Franklin Avenue.



Table 6-3: Existing Level of Service – Turning Movement Operations

Intersection and Movement	PM Peak Existing
	LOS
Highway 3 and Old Airport Road	
Eastbound Through	A
Eastbound Right	A
Westbound Left-Through	A
Northbound Left	B
Northbound Right	B
Highway 3 and Highway 4	
Eastbound Left	B
Eastbound Right	B
<i>Northbound Left</i>	--
Northbound Left-Through	A
Southbound Through	A
Southbound Right	A
Old Airport Road and Borden Drive (near the Home Building Centre)	
Eastbound Left-Right	B
<i>Eastbound Left</i>	--
<i>Eastbound Right</i>	--
Northbound Left	A
Northbound Through	B
Southbound Through	B
Southbound Right	A
Old Airport Road and Borden Drive (near Wal-Mart)	
Eastbound Left-Through	C
<i>Eastbound Left</i>	--
<i>Eastbound Through</i>	--
Eastbound Right	A
Westbound Left	C
Westbound Through-Right	C
Northbound Left	B
Northbound Through-Right	A
Southbound Left	B
Southbound Through-Right	B
<i>Southbound Through</i>	--
<i>Southbound Right</i>	--



Intersection and Movement	PM Peak Existing
	LOS
Old Airport Road and Range Lake Road	
Eastbound Left	C
Eastbound Through	C
Eastbound Right	A
Westbound Left	C
Westbound Through	D
Westbound Right	C
Northbound Left	C
Northbound Through-Right	B
Southbound Left	B
Southbound Through-Right	C
<i>Southbound Through</i>	--
<i>Southbound Right</i>	--
48th Street and 49th Avenue	
Eastbound Left-Through-Right	B
<i>Eastbound Left</i>	--
<i>Eastbound Through-Right</i>	--
Westbound Left-Through-Right	A
<i>Westbound Left-Through</i>	--
<i>Westbound Right</i>	--
Northbound Left-Through-Right	B
Southbound Left-Through	B
<i>Southbound Left</i>	--
<i>Southbound Through-Right</i>	--
Southbound Right	A
Deh Cho Boulevard and Kam Lake Road	
Eastbound Left-Through	A
Westbound Through-Right	A
<i>Westbound Through</i>	--
<i>Westbound Right</i>	--
Southbound Left-Right	B
Old Airport Road and Franklin Avenue	
Eastbound Left	A
Eastbound Through-Right	B
Westbound Left	A
Westbound Through	A
Westbound Right	A
Northbound Left	D
Northbound Through	C
Northbound Right	B
<i>Northbound Through-Right</i>	--
Southbound Left	E
Southbound Left-Through	E
<i>Southbound Through</i>	--
Southbound Right	A



The intersection of Old Airport Road and Franklin Avenue has two movements that operate at LOS E, which is an indication of traffic delay. The movements are in the southbound direction of travel and are caused by the high volume of left-turn vehicles onto Franklin Avenue. The northbound left-turn movement is operating at a LOS D, indicating that there is approximately 30 seconds of delay. All other movements operate a LOS C or better, indicating approximately 20 seconds of less of delay. This delay is considered reasonable for normal intersection operations. An updated signal timing plan could improve operations at this intersection for priority movements.

The westbound through movement at the intersection of Old Airport Road and Range Lake Road operates at a LOS D, indicating approximately 30 seconds of delay. The southbound through-right movement operates at a LOS C, and the volumes, while high have enough capacity with two through lanes. The cycle length is long for this intersection and the individual movement operations would benefit from an improved signal timing plan, which may reduce delay and increase capacity.

All other turning movements at the six remaining analyzed intersections operate at a LOS C or better, indicating approximately 20 seconds or less of delay. This delay is considered reasonable for normal intersection operations.

6.3 Safety Analysis

Traffic collision data for the city from 2004 to 2006 was provided by the Government of the Northwest Territories. Reported collision data included dates, times, severities, types of collisions, number of vehicles involved, potential contributing factors, and other secondary information. A review of all reported collisions from 2004 to 2006 was conducted in order to determine the amount of collisions on the key roads in and around Yellowknife. The data set did not include any collision information relating to Highway 3 or Highway 4 or any unreported collisions. **Table 6-4** displays the number of collisions reported on key roadways between 2004 and 2006 inclusive.

Table 6-4: Number of Collisions by Roadway from 2004 to 2006

Key Roadway	Collisions	Relative Percent	Overall Percent
Franklin Avenue	643	48%	20%
Old Airport Road	252	19%	8%
52 nd Avenue	117	9%	2%
51 st Avenue	78	6%	2%
50 th Street	68	5%	2%
48 th Street	66	5%	1%
Kam Lake Road	62	5%	2%
49 th Avenue	44	3%	4%
<i>Total</i>	<i>1330</i>	<i>100%</i>	<i>41%</i>



There were a total of 3186 reported collisions from 2004 to 2006. The identified key roadways in **Table 6-4**, accounted for almost half the collisions in the city of Yellowknife (1330). The highest number of collisions reported on a single road was on Franklin Avenue, with 20% of the overall number and 48% relative to the other key roadways. Given that the majority of collisions were reported on or associated with Franklin Avenue, a further in-depth review was conducted on collisions related only to Franklin Avenue.

6.3.1 *Franklin Avenue Collision Summary*

The boundary of analysis on Franklin Avenue was from Old Airport Road to Weaver Drive. The analysis was separated into intersection related collisions, and segment related collisions. The differences in collision patterns and more importantly the reason for the collisions can be different between intersections and segments and therefore this methodology is more effective in identifying the appropriate collision patterns and trends. The collision summary details are provided in **Appendix D**.

A graphical overview of the corridor is provided in **Exhibit 6-3** with the number of collision identified by intersection and segment.

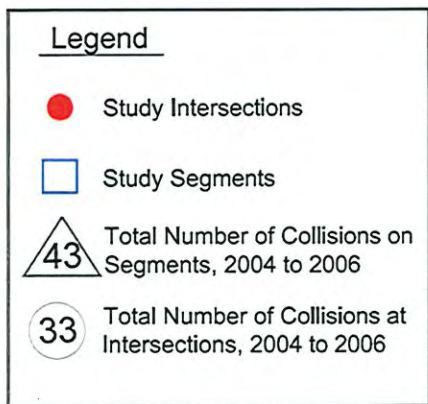
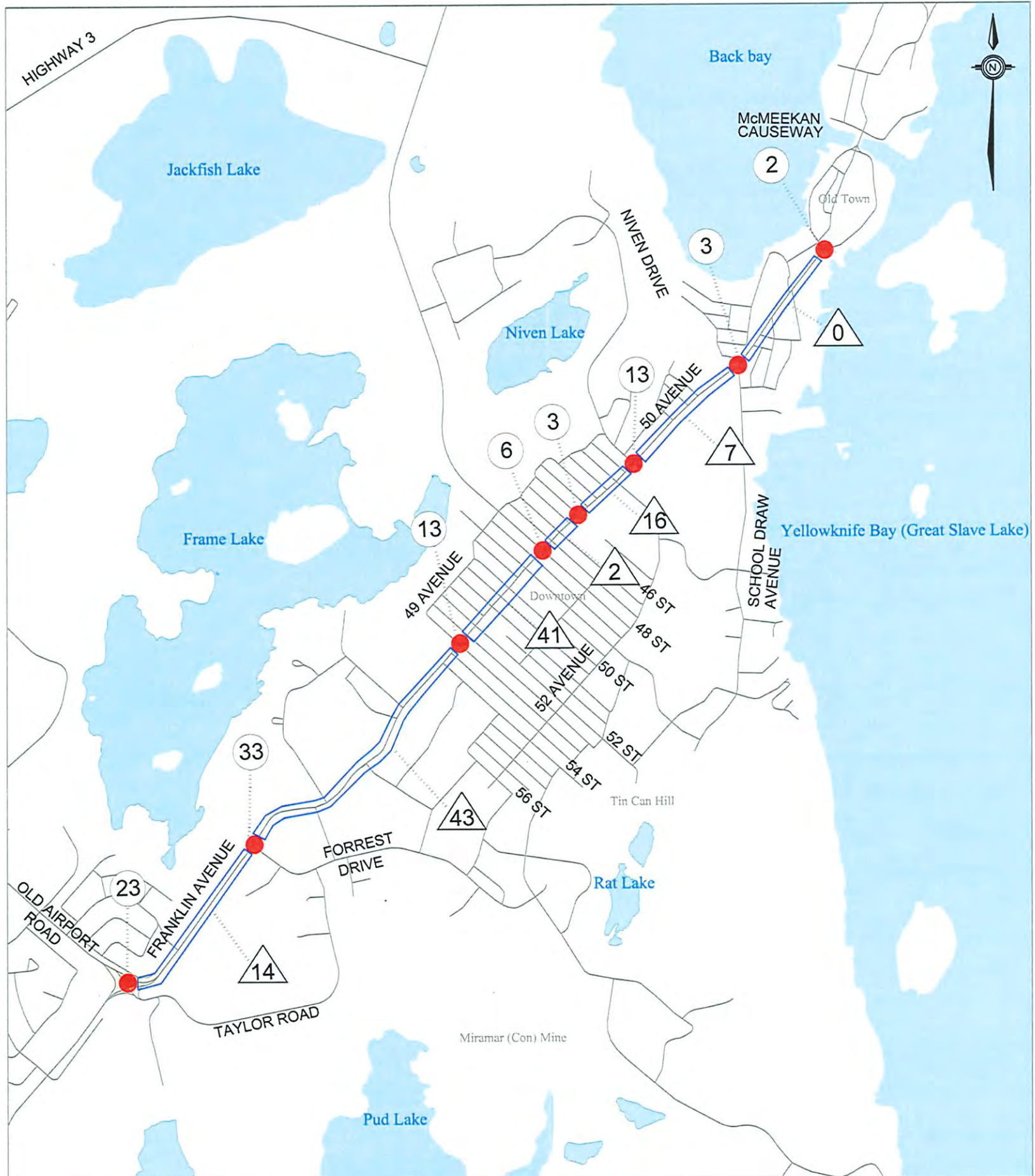


Exhibit 6-3: Franklin Avenue Collision Summary



6.3.1.1 Intersection Collisions

The raw collision data was reviewed for all the intersections along Franklin Avenue between Old Airport Road and Weaver Drive. The type and severity of the collisions are summarized in Table 6-5 and Table 6-6, respectively.

Table 6-5: Intersection Collision Type Distribution along Franklin Avenue

Intersecting Street	Nature and Number of Collisions(2004 - 2006)				
	Rear End	Right Angle	Side Swipe (Same Direction)	Left Turn	Other
At Old Airport Road	23	--	--	--	--
At Forrest Drive	21	--	8	2	2
At 53 rd Street	3	4	--	2	4
At 48 th Street	--	2	4	--	--
At 46 th Street	--	2	--	--	1
At 43 rd Street	7	3	--	3	--
At School Draw Avenue	3	--	--	--	--
At Weaver Drive	--	2	--	--	--
<i>Total</i>	<i>57</i>	<i>13</i>	<i>12</i>	<i>7</i>	<i>7</i>

Table 6-6: Intersection Collision Severity along Franklin Avenue

Intersecting Street	Severity			Total
	Fatal	Injury	PDO	
At Old Airport Road	--	2	21	23
At Forrest Drive	--	4	29	33
At 53 rd Street	--	2	11	13
At 48 th Street	--	--	6	6
At 46 th Street	--	--	3	3
At 43 rd Street	--	--	13	13
At School Draw Avenue	--	--	3	3
At Weaver Drive	--	--	2	2
<i>Total</i>	<i>0</i>	<i>8</i>	<i>88</i>	<i>96</i>

PDO = Property Damage Only

Table 6-5 indicates that the majority of the collisions reported at the intersections were rear-end collisions. According to the potential contributing factors information, many of these collisions occurred on icy road conditions in the evening hours. This could be a result of vehicles speeding along Franklin Avenue that were unable to stop due to slippery road conditions when the signal changed to red.



In general, collisions were less frequent in central downtown and out towards Old Town. From downtown out towards Kam Lake, at the intersections of Franklin Avenue and Forrest Drive, Old Airport Road, collisions were much higher, with almost 3 times as many per intersection. Traffic in the downtown core travels more slowly than outside of downtown due to the close proximity of each traffic signal and the urbanized conditions such as pedestrian activity and on-street parking. These factors combine to provide a traffic calming effect, which leads to slower moving traffic, and ultimately less potential for collisions. The downtown core has a significantly different driving environment than areas outside of downtown, specifically out towards Kam Lake. From 54th Avenue to Old Airport Road, there is significantly more travel distance between signals, there are multiple horizontal curves, and there is also more traffic volume travelling than there is destined for Old Town. These factors combine to make for a faster driving environment and likely contribute to the higher number of reported collisions.

As summarized in **Table 6-6** for intersections, there were no reported fatalities, 8% of collisions resulted in injury and 92% were property damage only.

6.3.1.2 Segment Collisions

The raw collision data was reviewed for all the segments along Franklin Avenue between Old Airport Road and Weaver Drive. The type and severity of collisions are summarized in **Table 6-7** and **Table 6-8**, respectively.

Table 6-7: Segment Collision Type Distribution along Franklin Avenue

Segments	Nature and Number of Collisions (2004 - 2006)						
	Rear End	Side Swipe (Same Direction)	Hit Parked Vehicle	Right Angle	Side Swipe (Opposite Direction)	Head-On	Other
Old Airport Road to Forrest Drive	10	4	--	--	--	--	
Forrest Drive to 53 rd Street	18	10	2	--	5	7	1
53 rd Street to 48 th Street	7	4	16	4	--	--	10
48 th Street to 46 th Street	--	--	2	--	--	--	--
46 th Street to 43 rd Street	2	--	2	12	--	--	--
43 rd Street to School Draw Avenue	--	5	--	--	2	--	--
School Draw Avenue to Weaver Drive	--	--	--	--	--	--	--
<i>Total</i>	37	23	22	16	7	7	11



Table 6-8: Segment Collision Severity along Franklin Avenue

Segments	Severity			Total
	Fatal	Injury	PDO	
Old Airport Road to Forrest Drive	--	5	9	14
Forrest Drive to 53 rd Street	--	6	37	43
53 rd Street to 48 th Street	--	4	37	41
48 th Street to 46 th Street	--	--	2	2
46 th Street to 43 rd Street	--	--	16	16
43 rd Street to School Draw Avenue	--	--	7	7
School Draw Avenue to Weaver Drive	--	--	--	0
<i>Total</i>	0	15	108	123

PDO = Property Damage Only

Table 6-7 indicates that the majority of collisions reported along the segments were rear-end, sideswipe, hitting a parked vehicle, and right angle. This section of the collision analysis, again, suggests that vehicles travelling along Franklin Avenue may have been speeding and unable to stop in time.

Between 48th Street and 53rd Street along Franklin Avenue, approximately 39% of collisions were related to hitting parked vehicles. The on-street parking allowances and restrictions vary in the downtown core and the uncertainty it may create could be a contributing factor.

Approximately 75% of collisions between 43rd Street and 46th Street along Franklin Avenue were right angle collisions. This could be a result of obstructed sight lines for vehicles accessing from the side streets or driveways.

On the segment between 43rd Street and School Draw Avenue, approximately 71% of the total collisions were side swipe collisions between vehicles travelling in the same direction. This could be the result of the road narrowing from 2 lanes to 1 lane in this section.

As summarized in **Table 6-8** for segments, there were no reported fatalities, 12% of collisions resulted in injury and 88% were property damage only.



6.4 Parking Analysis

6.4.1 *Downtown Parking Analysis*

A parking assessment was undertaken of the Downtown core area to better understand the existing parking supply versus demand. This area is bounded by 49th Avenue to 52nd Avenue, 45th Street, and 54th Street. The existing parking data collection and existing infrastructure was previously outlined in **Section 3.2** and **Section 5.3**, respectively. This section focuses on the analysis.

The parking analysis was separated into on-street and off-street parking as each type of parking has different characteristics. For example, off-street lots have a different payment structure than on-street spaces and length of parking time can vary significantly. By separating the analysis, a better understanding of parking in downtown Yellowknife is attained.

6.4.1.1 *On-Street*

The total number of available on-street stalls in the downtown area is 731. The overall on-street parking demand was analyzed for all three time periods where data collection occurred. The purpose was to determine which of the three time periods had the highest utilization, or most parked vehicles. The results are illustrated in **Exhibit 6-4**.

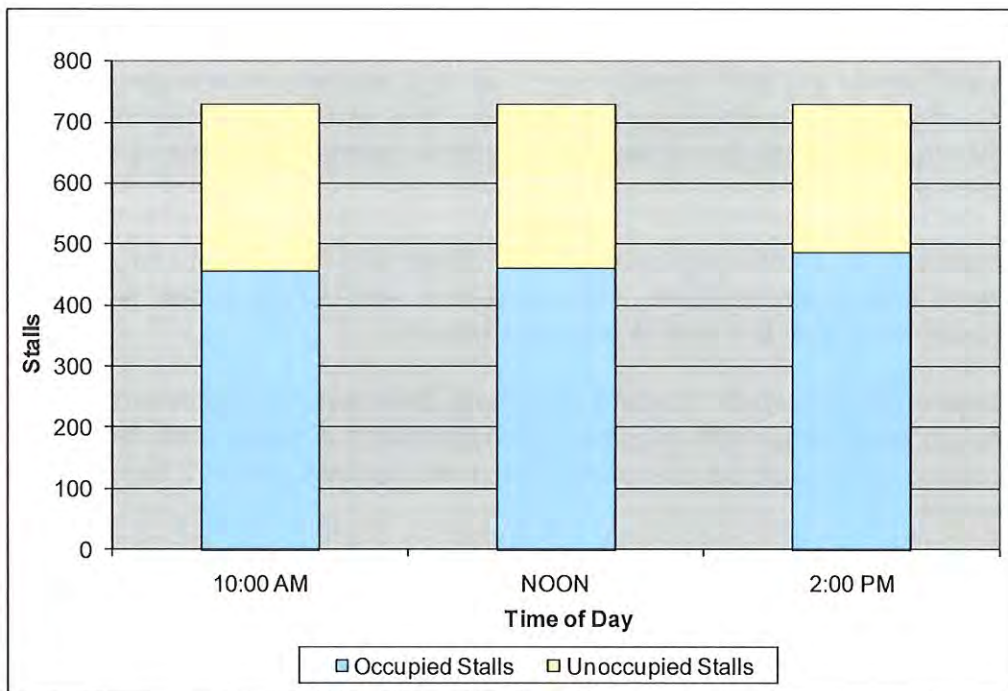


Exhibit 6-4: On-Street Parking Capacity in Downtown Yellowknife



While the three observed parking time periods had similar overall utilizations, the surveys indicated that the 2:00 PM counts had the highest utilization; therefore, the 2:00 PM data was the basis for the analysis.

The individual on-street parking locations were categorized into three specific geographical zones. These zones represent a combined parking area, intended to resemble and function as a large parking lot. On the street, driver behaviour is generally similar to if they were in a parking lot, meaning if the driver cannot find a parking space directly in front of their desired destination, they will choose the closest available space, which is likely to be in the defined zone. This methodology leads to a better analysis of the overall parking situation and a clearer understanding of where demand is highest or lowest.

Zones A1, A2, and A3 define on-street parking and are described in **Table 6-9**.

Table 6-9: Locations of the On-Street Counts by Zone

Zones	On-Street Locations
A1	<ul style="list-style-type: none">49th Avenue between 48th Street and 51st Street47th Street to 53rd Street between 49th Avenue and Franklin Avenue
A2	<ul style="list-style-type: none">Franklin Avenue between 47th Street and 53rd Street
A3	<ul style="list-style-type: none">47th Street to 52nd Street between Franklin Avenue and 51st Avenue51st Avenue between 47th Street and 52nd Street

Based on the parking inventory conducted in fall 2008, **Exhibit 6-5** outlines the 2:00 PM on-street parking utilization rates in downtown Yellowknife.

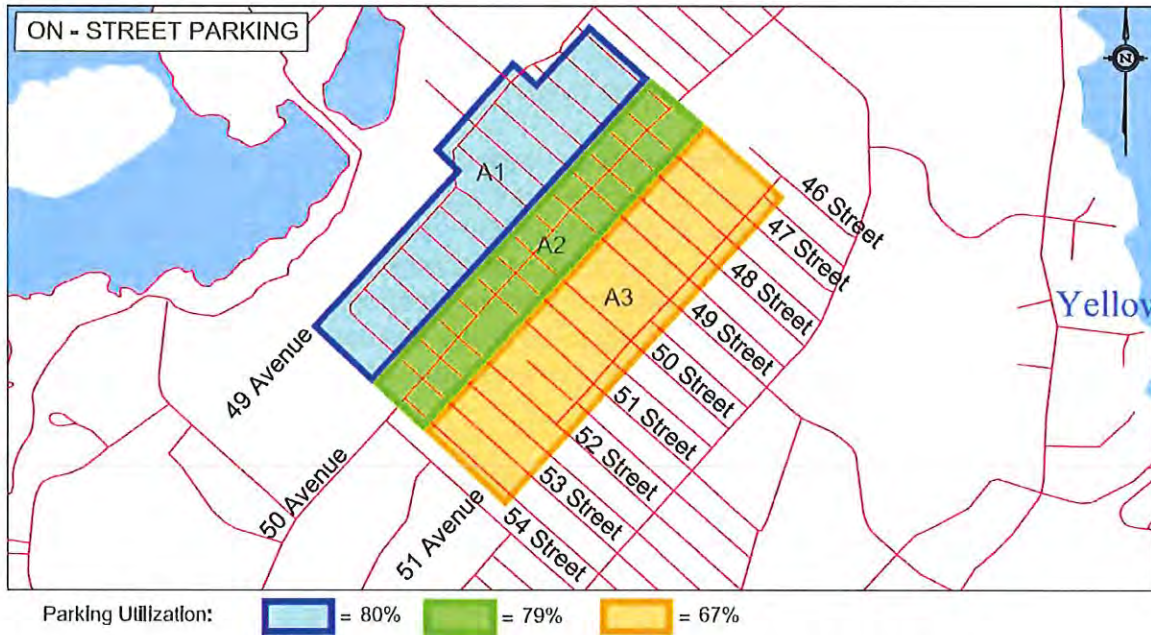


Exhibit 6-5: Utilization of On-Street Parking in Downtown Yellowknife

The supply and demand for each of the parking zone for the peak time (2:00 PM) was summarized and the utilization for each zone was calculated and reported in **Table 6-10**.

Table 6-10: Summary of the On-Street Parking Results

Zone	Demand	Supply	On-Street Utilization
A1	191	240	80%
A2	48	61	79%
A3	171	267	67%
<i>System Wide</i>	<i>410</i>	<i>568</i>	<i>72%</i>

There was a portion of the on-street parking spaces surveyed that were outside of the defined A1, A2, and A3 zones. For example, on-street parking data was collected on 49th Street and 50th Street between 51st Avenue and 52nd Avenue. However, this area was considered outside of the defined downtown core and in order to be consistent with the on-street and off-street analysis and to stay true to a defined area, it was not included in the results. A separate analysis of this outlying area reveals that 77 stalls were occupied out of 163 stalls, resulting in a utilization of 47%. Therefore, it is concluded that the parking demand is significantly less outside of the defined downtown core and only adds additional parking capacity.

6.4.1.2 *Off-Street*

The total number of available off-street stalls in the downtown area is 689. The overall off-street parking demand was analyzed for all three time periods where data collection occurred. The purpose was to determine which of the three time periods



had the highest utilization, or most parked vehicles. The results are illustrated in **Exhibit 6-6**.

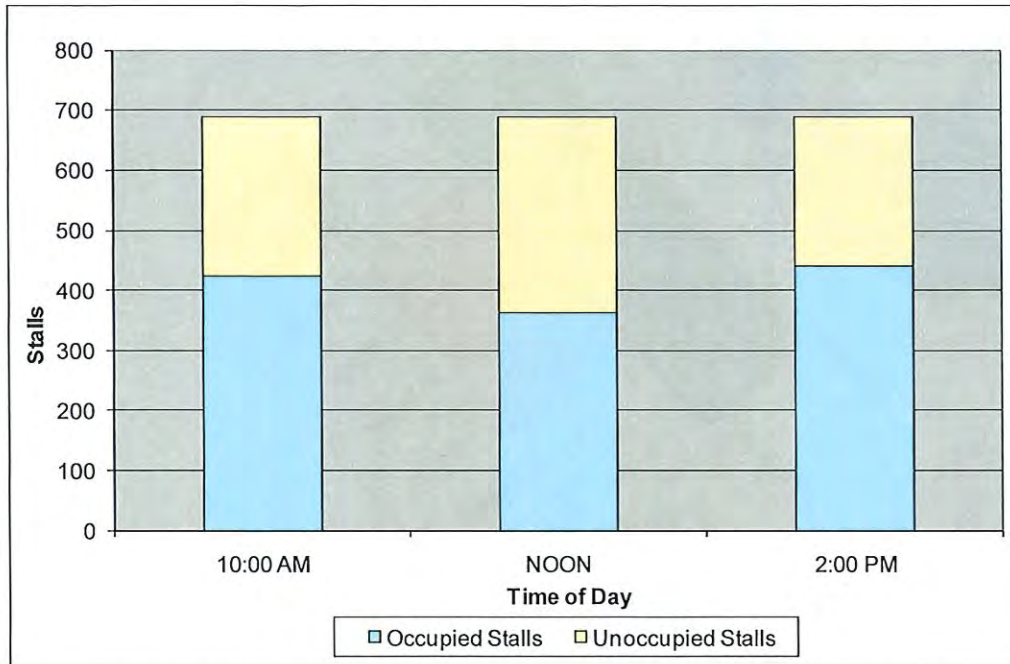


Exhibit 6-6: Off-Street Parking Capacity in Downtown Yellowknife

While the three observed parking time periods had similar overall utilizations, the surveys indicated that the 2:00 PM counts had the highest utilization; therefore, the 2:00 PM data was the base for the analysis.

Again, the individual off-street parking locations were categorized into the three specific geographical zones.

Zones A1, A2, and A3 define on-street parking and are described in **Table 6-11**.

Table 6-11: Locations of the Off-Street Counts by Zone

Zones	Off-Street Locations
B1	▪ 47 th Street to 50 th Street between 49 th Avenue to Franklin Avenue
B2	▪ 50 th Street to 53 rd Street between 49 th Avenue to Franklin Avenue
B3	▪ 48 th Street to 51 st Street between Franklin Avenue to 51 st Avenue



Based on the parking inventory conducted in fall 2008, **Exhibit 6-7** outlines the 2:00 PM off-street parking utilization rates in downtown Yellowknife.

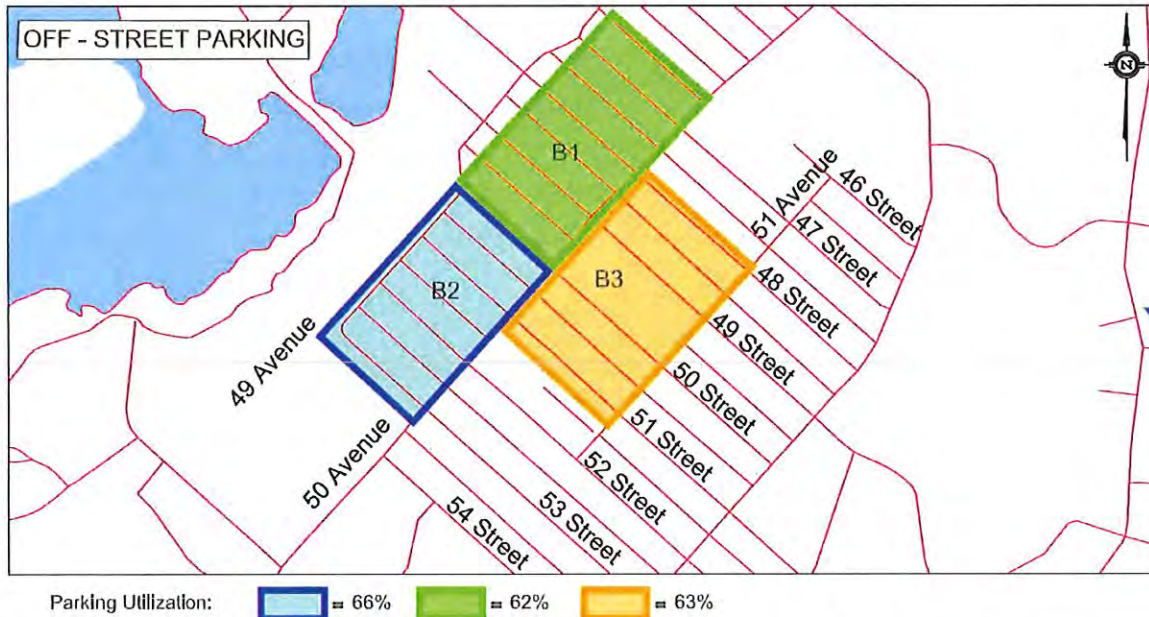


Exhibit 6-7: Utilization of Off-Street Parking in Downtown Yellowknife

The supply and demand for each of the parking zone for the peak time (2:00 PM) was summarized and the utilization for each zone was calculated and reported in **Table 6-12**.

Table 6-12: Summary of the Off-Street Parking Results

Zone	Demand	Supply	Utilization
B1	166	250	66%
B2	196	317	62%
B3	77	122	63%
<i>System Wide</i>	439	689	64%

There are approximately an additional 25 lots that were not counted and are not included in zones B1, B2, and B3. However, given the lower utilization in the defined downtown core and the results of the on-street demand, it is concluded that this parking would have similar or less utilization than the downtown core.

6.4.2 Summary

The downtown parking survey indicates that there is spare existing parking capacity in all of the zones for both on-street and off-street parking. For all zones, the off-street parking had more capacity than the on-street parking although this was less noticeable between zones A3 and B3.



Existing Issues





7. EXISTING ISSUES

The existing transportation issues have been identified by individual mode and are illustrated in **Exhibit 7-1**. Transit, cycling, pedestrian, and road infrastructure issues are described in more detail in the following sub-sections.

7.1 Transit Issues

Transit service was often referenced in previous reports and in discussions with the public as a key element of the transit network that needed improvement. Overcrowding at peak times, frequency of pick-up, and long travel times due to circuitous routes were brought forward as elements of transit that are not meeting user expectations. Peak periods in the morning and afternoon “rush hours” are overcrowded and conversely the off-peak service between the morning and afternoons is under utilized. Poor transferability between modes and bus routes and the lack of route coordination was highlighted as an ongoing concern. As identified through the Smart Growth consultation process, the lack of comfortable bus stops contributed to user dissatisfaction with the transit service. Indoor bus shelters were also highlighted as key improvements for consideration.

With respect to the bus routes themselves, the lack of service area coverage as well as limited weekend and evening service is problematic for residents travelling outside of the peak commuter travel times. Lack of transit service to the airport is identified as a major issue in terms of providing complete service area coverage and sustainable travel to and from the airport for the large number of employees.

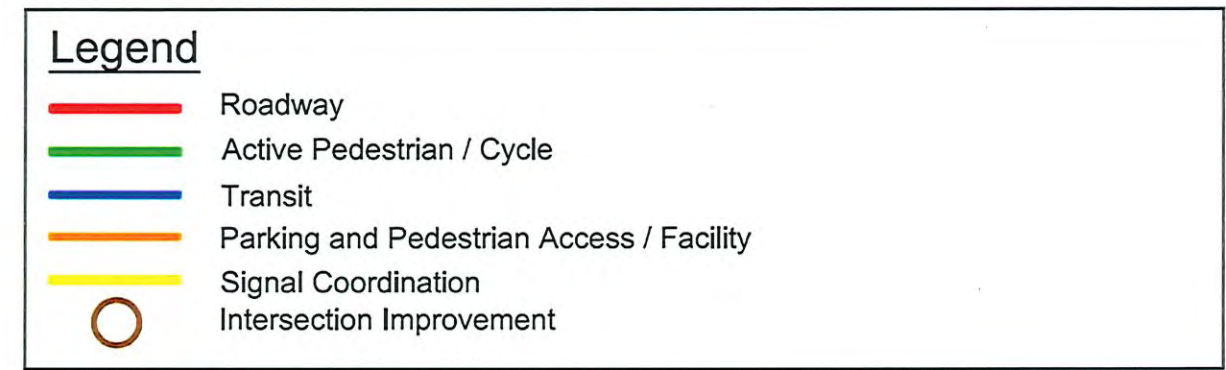


Exhibit 7-1: Existing Transportation Issues



7.2 Pedestrian Issues

There is a large mode share of pedestrian walking trips in the city of Yellowknife. This is a very positive sign as walking trips are the most sustainable form of travel. As a result, direct health benefits associated with the activity of walking are realized and indirect benefits are realized due to zero emissions and pollutants.

The issues with pedestrian infrastructure are similar to that of cyclists when it comes to recreational trails. There is a lack of inter-trail connectivity and safe crossing opportunities where the trail intersects the road network. It was noted at the Charrette, that there would be an interest in a proposed boardwalk in Old Town along the waterfront from Rotary Park to McMeekan Causeway.

Other issues include the lack of connectivity of pedestrian facilities such as sidewalks or trails, with transit or other multimodal transfer points, which limits the widespread promotion of walking as a mode that is safe and enjoyable to use for the entire community.

7.3 Road Infrastructure Issues

The existing road network is generally functioning well. There have been discussions with the public about the coordination of traffic signals in the downtown core area from 48th Street to 54th Street. While the main street traffic along 50th Avenue operates well, the side streets operations could be improved with better signal coordination and timing plans.

The PM peak hour traffic review and analysis suggested that there are some higher traffic flows at the following intersections:

- 49th Avenue and Highway 4 (unsignalized);
- Franklin Avenue and Old Airport Road; and,
- Old Airport Road between Borden Drive (near Wal-Mart) and Franklin Avenue.

Access Management along the majority of Old Airport Road, particularly between the Co-op corner and Highway 3, is identified as an issue. There are many local businesses along this section with uncontrolled access and egress from Old Airport road and the property.

The parking downtown is adequate to accommodate the demand; however, parking in Old Town is limited due to the unique nature of the area and its character. Access and commercial parking along Old Airport Road is also an issue as the multitude of driveways giving access to private lots creates stop and go conditions with peak flows.



Future Land Use



8. FUTURE LAND USE

Through the *Plan*, the City developed three potential growth scenarios to guide Yellowknife over the next fifty or more years. The three growth scenarios are: Compact, Hybrid, and Dispersed. Each represents a different approach to development and the *Study* assessed the impacts of each.

Each of the three growth scenarios is represented by two maps: one that identifies the number of **households** in each Smart Growth Zone and another that identifies the employment, by number of **jobs** in each Smart Growth Zone. The boundaries of the Smart Growth Zones are different in each scenario.

Households and jobs are related to each other by another factor, population. Generally, the population of a city increases over time due to a variety of reasons. For example, as population increases, more people begin living in the city, which results in the need for more households. Due to the increased population and new households, more jobs are necessary to support the community. Another possibility is that there is an increasing demand for jobs, perhaps as a result of growth in a specific industry or just overall economic growth. This increased employment demand drives an increase in population, which in turn leads to more households. In reality, these factors are never as simply related and can be either the cause or effect of each other or influenced by outside factors. However, for a planning study of this nature, the knowledge that if one increases the others increase, and vice versa, is sufficient.

Households and employment projections are important for creating a future transportation model because they represent growth in the region. Essentially, this means the overall number of trips grow because there are more jobs and more households in the city. Growth in jobs and households combine with existing trip information and other modeling factors to create the projected trips in the future transportation scenarios.

The *Plan* developed household and job projections for the three growth scenarios in three future horizons based on three population projections: 25,000 (short), 33,000 (intermediate), and 50,000 (long). In each horizon, the total households and job projections are the same for every scenario. For example, in the long-term horizon, the total number of number of households is approximately 17,100 for all scenarios. It is the distribution of these households within defined development areas of the city that changes between horizons. Because of the long-term nature of the *Study* only the intermediate-term and long-term population horizons were examined.



Intermediate-term

The long-term planning horizon it presented in the body of this report and a matching format of Tables and Exhibits for the intermediate-term analysis is provided in **Appendix E**.

Table 8-1 summarizes the total households and jobs in the long-term horizon.

Table 8-1: Total Households and Jobs (Long-Term Horizon)

Type	Existing	Compact / Hybrid / Dispersed
		Long-term
Households	6890	17140
Jobs	10840	27890

The Smart Growth Maps for households and jobs in each land use scenario are illustrated in **Exhibit 8-1** through **Exhibit 8-6**.

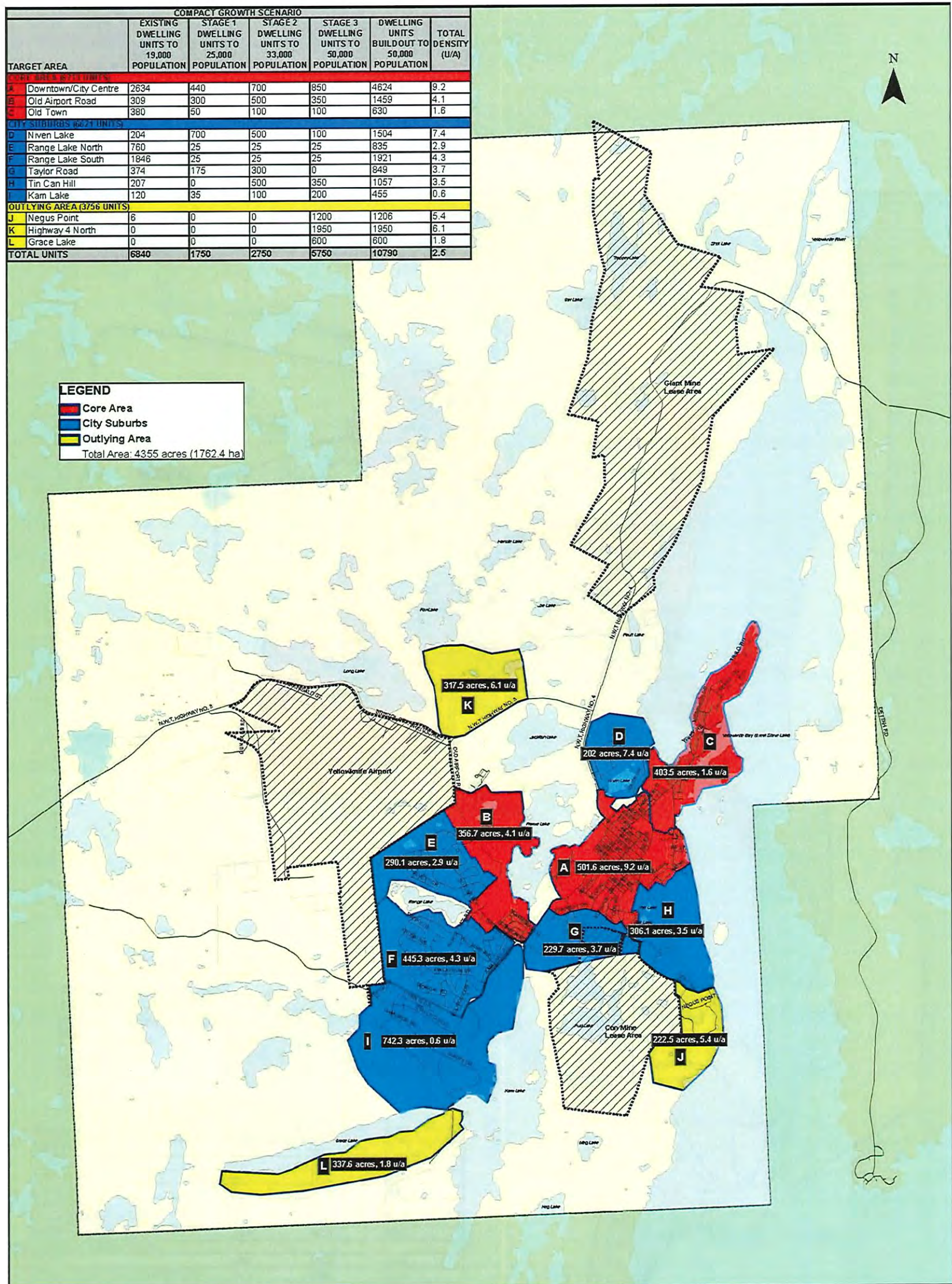


Exhibit 8-1: Households – Compact Scenario

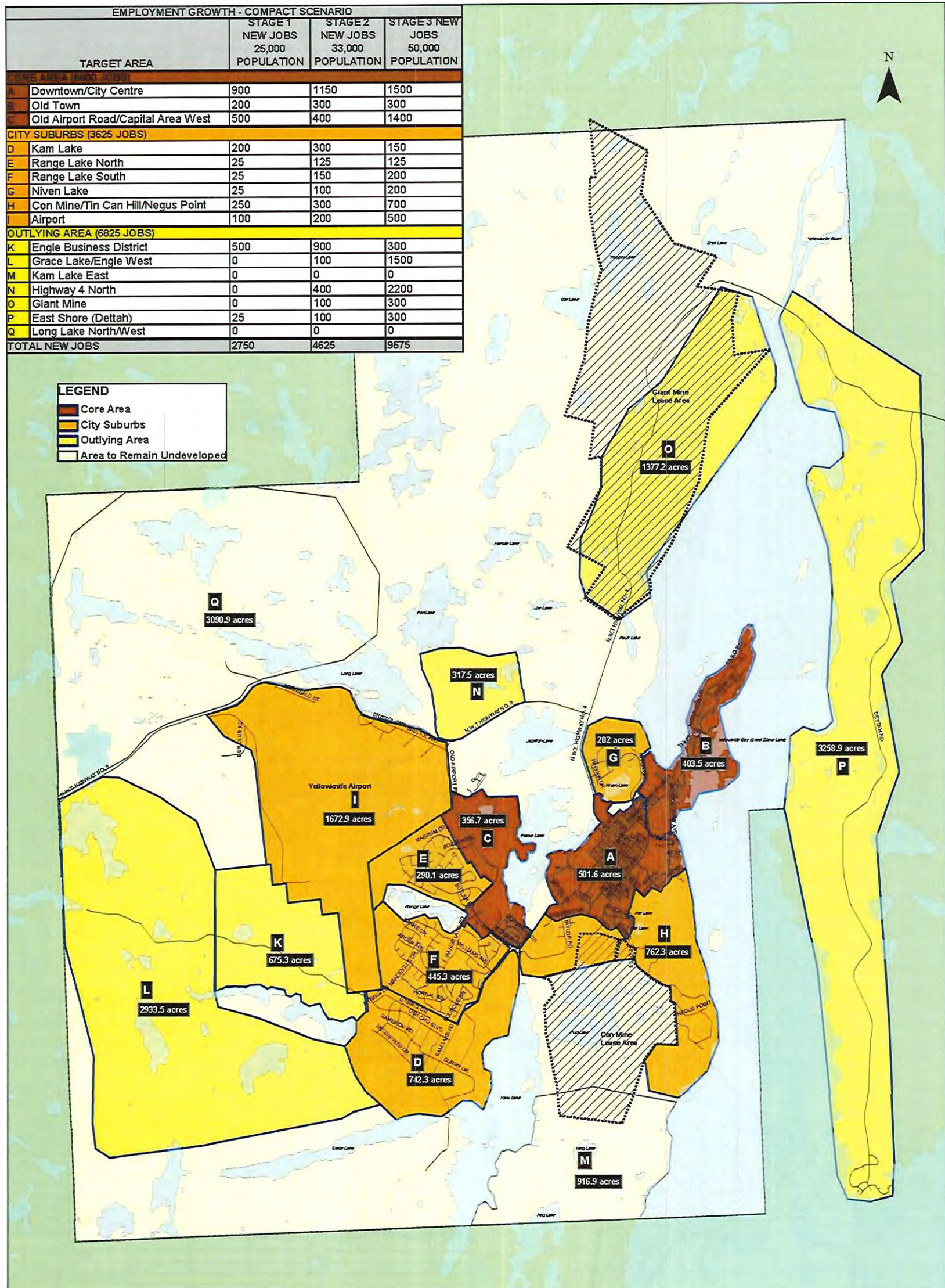


Exhibit 8-2: Jobs – Compact Scenario

SEE APPENDIX B –
NIVEN LAKE PHASE 5 TRAFFIC
STUDY

**SEE APPENDIX A –
ZONING BY-LAW NO. 5045**