DEVELOPMENT and PLANNING SERVICES COMMITTEE

Monday, January 7, 2019
City of Salmon Arm
Council Chamber
City Hall, 500 - 2 Avenue NE
8:00 a.m.

Page #	Item #		Description
	1.		**CALL TO ORDER**
	2.		**REVIEW OF AGENDA**
	3.		**DECLARATION OF INTEREST**
	4.		**PRESENTATION** n/a
	5.		**REPORTS**
1 - 10		1.	ZON-1137, Arsenault, A., 4080 – 20 Street NE; R-7 to R-8
11 - 18		2.	ZON-1135 / VP-492, Stacer, J., 661 – 21 Street NE; R-4 to R-8 / Parcel Width Variance
19 - 24		3.	VP-487, Cox, P. & V., #6, 481 Highway 97B NE; Parcel Coverage Variance
	6.		**FOR INFORMATION**
25 - 30		1.	Feasibility of installing green technology on a City owned facility
	7.		**IN CAMERA**
		1.	
	8.		**LATE ITEM** n/a
	9.		**ADJOURNMENT**

Followed by a Special Council Meeting (Budget) at 9:00 a.m.

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http://www.salmonarm.ca/agendacenter

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CITY OF SALMON ARM

To: His Worship Mayor Harrison and Members of Council

Date: December 14, 2018

Subject: Zoning Bylaw Amendment Application No. 1137

Legal: Lot 13, Section 25, Township 20, Range 10, W6M, KDYD, Plan EPP68403
Civic: 4080 20 Street NE
Owner/Applicant: Arsenault, A.

MOTION FOR CONSIDERATION

THAT: **a bylaw be prepared for Council's consideration, adoption of which would amend Zoning Bylaw No. 2303 by rezoning Lot 13, Section 25, Township 20, Range 10, W6M, KDYD, Plan EPP68403 from R-7 (Large Lot Single Family Residential Zone) to R-8 (Residential Suite Zone).**

STAFF RECOMMENDATION

THAT: The motion for consideration be adopted.

PROPOSAL

The subject parcel is located at 4080 20 Street NE (Appendix 1 and 2) and is currently under development. The proposal is to rezone the parcel from R-7 (Large Lot Single Family Residential) to R-8 (Residential Suite) to permit the construction and use of a *secondary suite* within a single family dwelling.

BACKGROUND

The subject parcel is designated Low Density Residential in the City's Official Community Plan (OCP) and zoned R-7 (Large Lot Single Family Residential) in the Zoning Bylaw (Appendix 3 & 4). The subject parcel is located in Green Emerald Estates, which is within an area of the City largely comprised of larger parcels containing single family dwellings and associated accessory buildings. A covenant registered on the subject parcel requires a minimum parcel size of 1,330 m2, and minimum parcel width of 25 m, which easily meets the minimum parcel specifications of the proposed R-8 zone. There are presently four R-8 zoned parcels within the vicinity of the subject parcel (a proposed subdivision just south of this parcel has not yet been finalized and could potentially add an additional 10 R-8 zoned parcels to the area).

The subject parcel meets the conditions as specified to permit a secondary suite within the proposed R-8 zone. Site photos are attached as Appendix 5. The intent of the applicant is to develop a conforming *secondary suite* within the basement of the single family dwelling currently being built, as shown in the plans attached as Appendix 6.

Secondary Suites

Policy 8.3.25 of the OCP provides for the consideration of secondary suites in Low Density Residential designated areas via a rezoning application, subject to compliance with the Zoning Bylaw and the BC Building Code. Based on parcel area and width, the subject property has potential to meet the conditions for the development of a *secondary suite*, including sufficient space for an additional off-street parking stall.

Covenant

As previously mentioned, a covenant registered on the subject parcel restricts parcel size to no less than 1,330 m2 and minimum parcel width to 25 m. While the R-8 zoning permits a smaller lot size, in this case the restrictive covenant alleviates potential subdivision concerns related to the proposed zoning amendment. The subject parcel easily meets the minimum parcel requirements under R-8 zoning to allow either a *detached suite* or a *secondary suite* (the intent is to develop a *secondary suite* in the basement of the single family dwelling presently under construction).

COMMENTS

Engineering Department

No objections to the proposed rezoning.

Building Department

BC Building Code will apply. No concerns with proposed zoning.

Fire Department

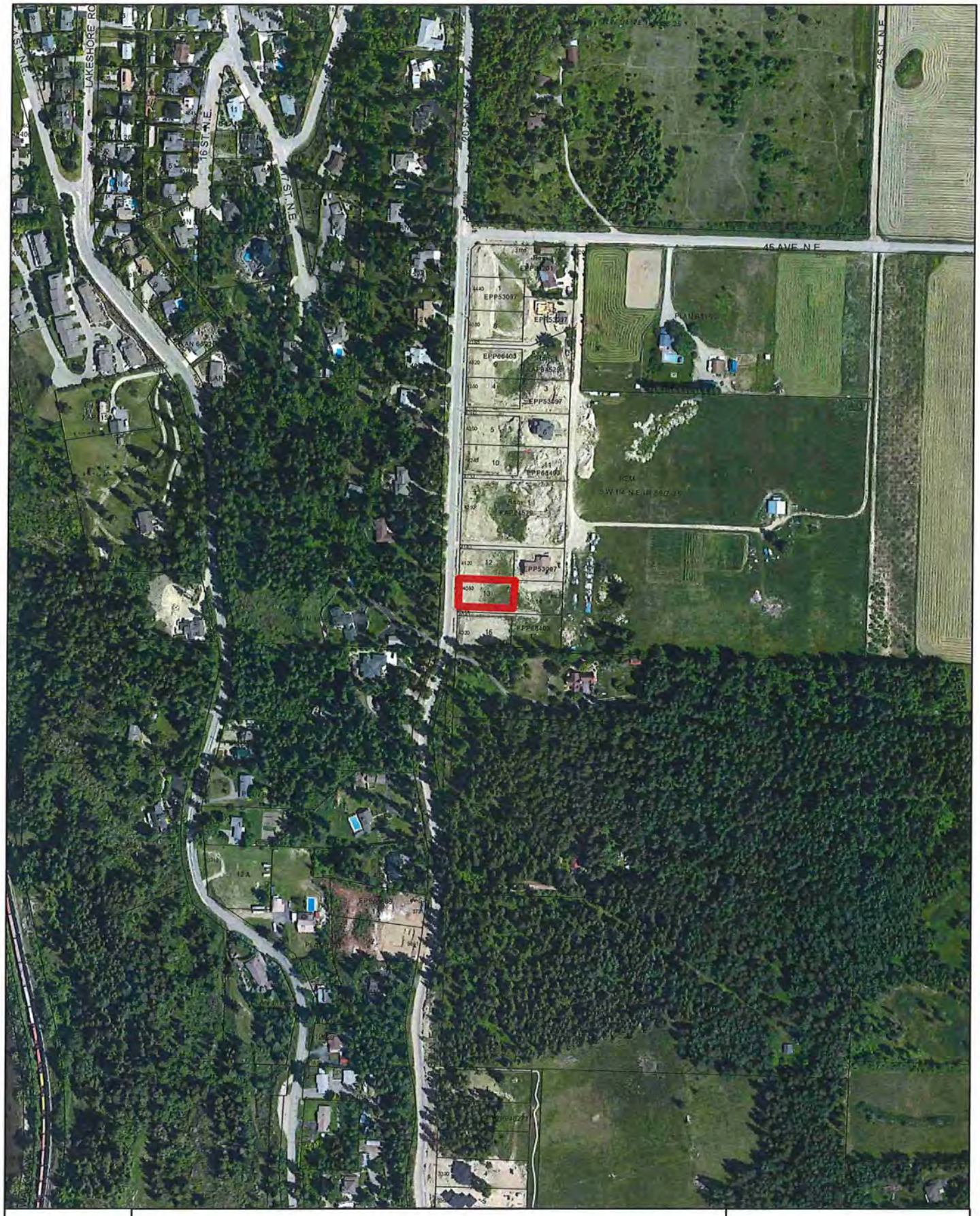
No concerns.

Planning Department

The proposed R-8 zoning of the subject parcel is consistent with the OCP and is therefore supported by staff. The site plan provided indicates that all R-8 Zone requirements can be met, including the provision of onsite parking, and that the proposed building substantially aligns with development patterns in the area. Any development of a secondary suite would require a building permit and will be subject to meeting Zoning Bylaw and BC Building Code requirements.

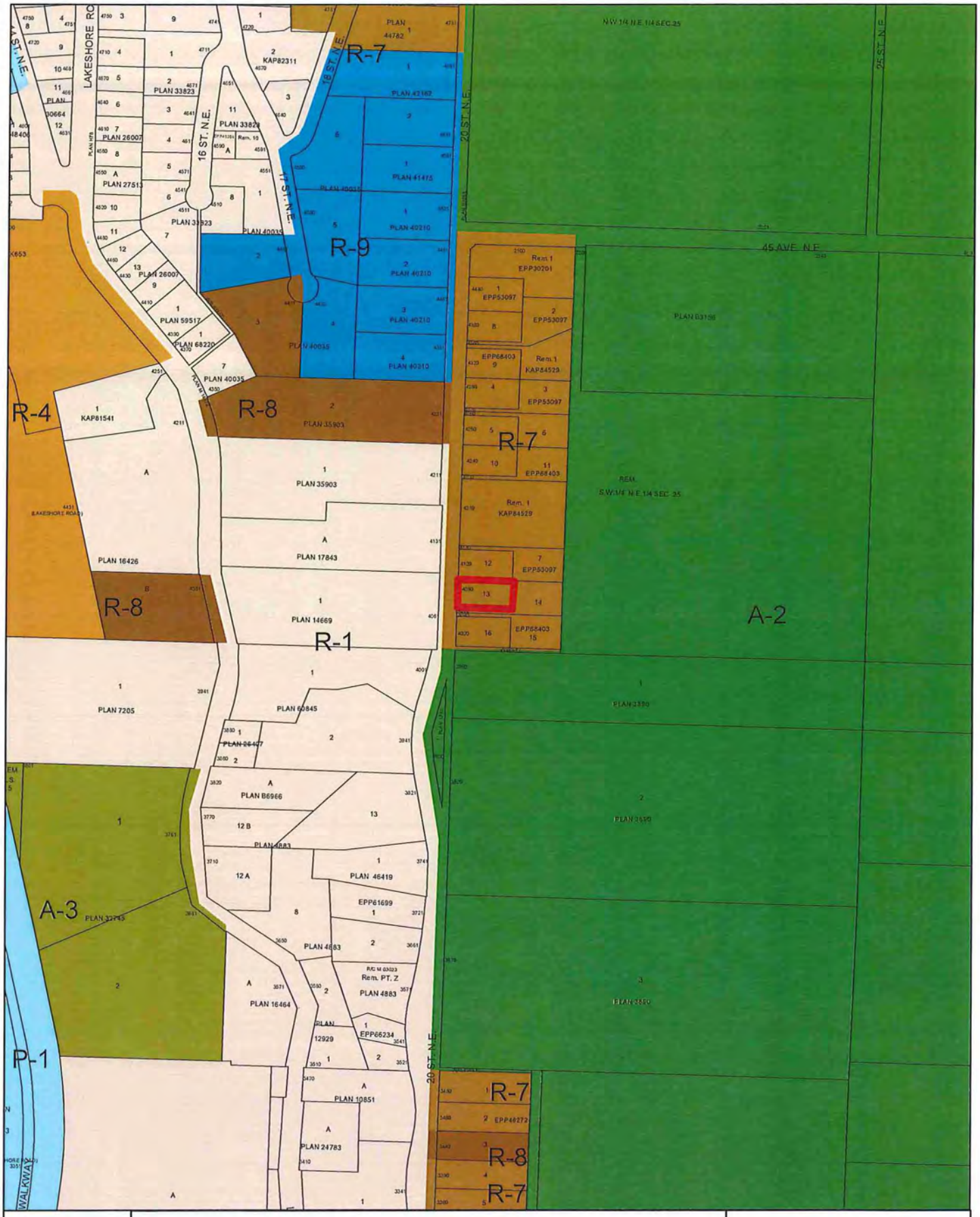
Prepared by: Chris Larson, MCP
Planning and Development Officer

Reviewed by: Kevin Pearson, MCIP, RPP
Director of Development Services


LAKESHORE RD
16 ST N.E.
17 ST N.E.
20 ST N.E.
25 ST N.E.
45 AVE N.E.
EPP53097
EPP66405
EPP53097
EPP53097
EPP66405
EPP53097
EPP66405
N
0 55 110 220 330 440
Meters
Subject Parcel


4240
10
11
EPP68403
4230
Rem. 1
KAP84529
4210
4140
4120
12
EPP53097
4080
13
14
4060
4040
EPP68403
4020
16
15
N
0 15 30 60 90 120
Meters
Subject Parcel


16 ST. N.E.
17 ST. N.E.
20 ST
45 AVE. N.E.
WALKWAY
0 ST. N.E.
N
0 15 30 60 90 120
Meters
Subject Parcel
Low Density Residential
Acreage Reserve

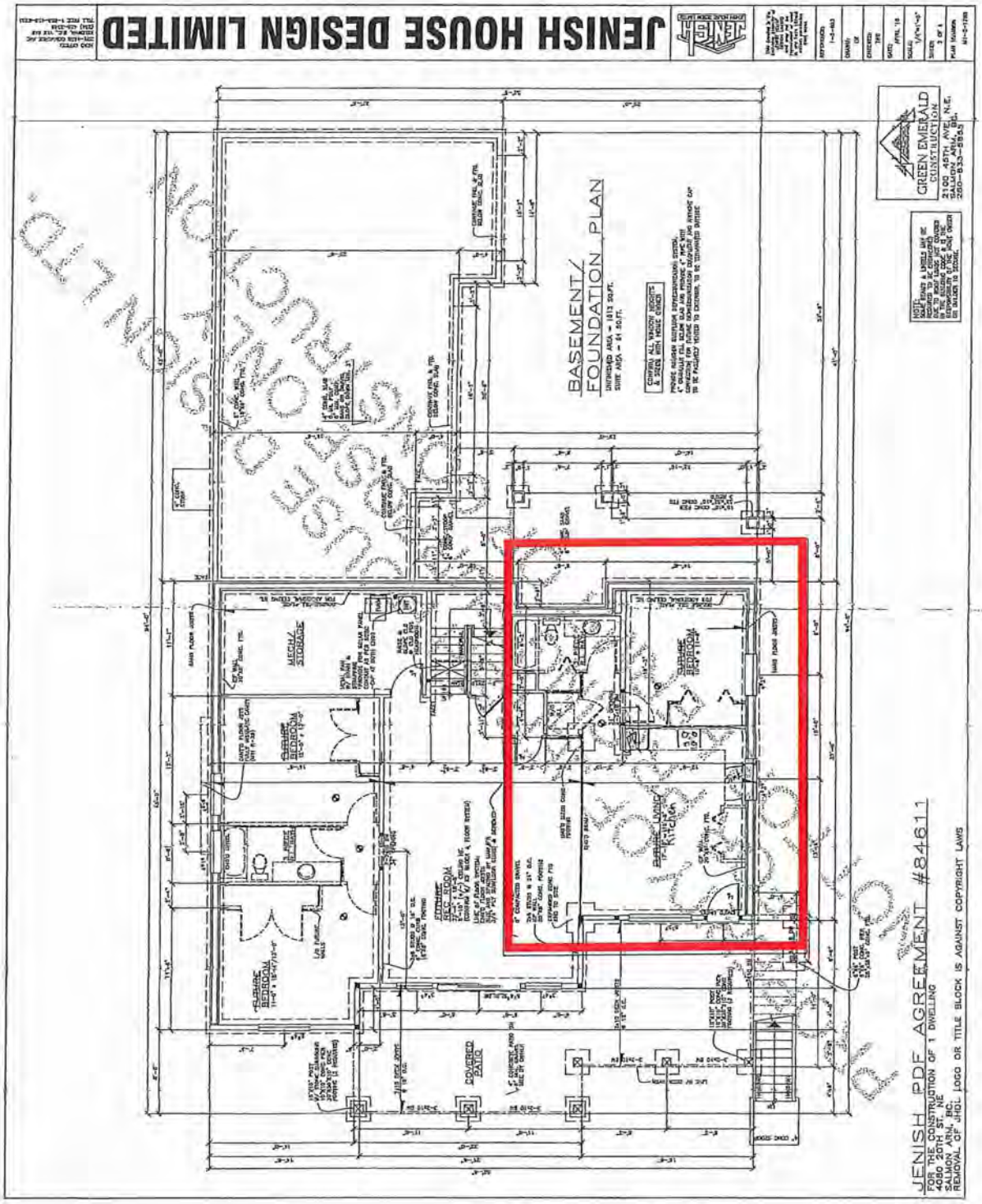

R-7
R-9
R-4
R-8
R-1
A-2
A-3
P-1
R-7
R-8
R-7
16 ST. N.E.
17 ST. N.E.
18 ST. N.E.
20 ST. N.E.
25 ST. N.E.
45 AVE. N.E.
LAKESHORE RO
WALKWAY
NW 1/4 N.E. 1/4 SEC. 25
REM. S.W. 1/4 N.E. 1/4 SEC. 25
PLAN 44782
KAP82311
PLAN 43162
PLAN 41475
PLAN 40210
PLAN 40035
PLAN 33823
PLAN 26007
PLAN 27513
PLAN 59517
PLAN 68220
KAP81541
PLAN 35903
PLAN 16426
PLAN 17843
PLAN 14669
PLAN 7205
PLAN 60845
PLAN 26407
PLAN B6966
PLAN 46419
EPP61699
PLAN 4883
PLAN 16464
PLAN 12929
EPP66234
PLAN 10851
PLAN 24783
EPP48272
PLAN 3330
PLAN 3850
PLAN 63158
EPP30201
EPP53097
EPP68403
KAP84529
Rem. PT. Z
0 55 110 220 330 440
Meters
N
Subject Parcel

Appendix 5: Site Photos

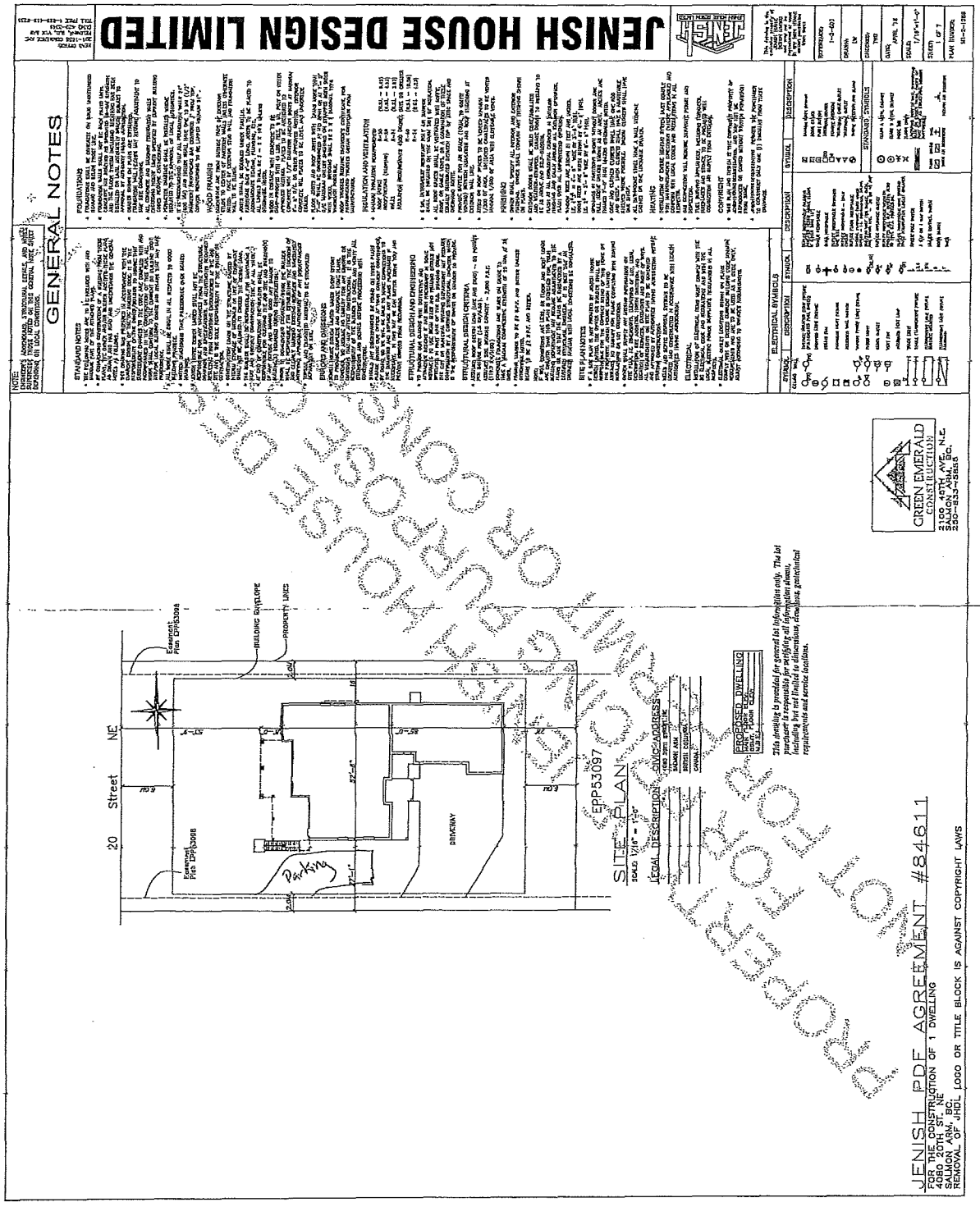
View south-east of subject parcel, showing adjacent development.

View north-east of subject parcel, showing adjacent development.

Appendix 6: Site Plans



Appendix 6: Site Plans



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CITY OF
SALMON ARM

TO: His Worship Mayor Harrison and Members of Council

DATE: December 20, 2018

SUBJECT: Zoning Bylaw Amendment Application No. 1135 (R-4 to R-8)
Variance Permit Application No. 492 (Minimum Parcel Width)
Legal: Lot 2, Section 13, Township 20, Range 10, W6M, KDYD, Plan KAP79770
Civic Address: 661 – 21 Street NE
Owner/Applicant: Jeff Stacer

MOTION FOR CONSIDERATION

THAT: **Development Variance Permit No. VP-492 be authorized for issuance for Lot 2, Section 13, Township 20, Range 10, W6M, KDYD, Plan KAP79770 which will vary Zoning Bylaw No. 2303 as follows:**

1. Section 13.10.1 Minimum Parcel Width – decrease the minimum parcel width from 14.0 m (45.9 ft) to 13.7 m (44.9 ft) for proposed Lots 1 and 2 as shown on Appendix 5.

AND THAT: **a bylaw be prepared for Council's consideration, adoption of which would amend Zoning Bylaw No. 2303 by rezoning Lot 2, Section 13, Township 20, Range 10, W6M, KDYD, Plan KAP79770 from R-4 (Medium Family Residential Zone) to R-8 (Residential Suite Zone).**

AND FURTHER THAT: Final reading of the Bylaw be withheld subject to approval of the Bylaw by the Ministry of Transportation and Infrastructure.

STAFF RECOMMENDATION

THAT: The motion for consideration be adopted.

PROPOSAL

The subject parcel is located at 661 – 21 Street NE and is currently vacant (APPENDICES 1 and 2). The proposal is to rezone the parcel from R-4 (Medium Family Residential Zone) to R-8 (Residential Suite Zone to accommodate a two lot subdivision. The applicant is also requesting a variance to reduce the minimum parcel width from 14.0 m to 13.7 m. The intent is to construct a single family dwelling with a suite on each of the two lots. The site plan is attached as APPENDIX 5.

SITE CONTEXT

The subject parcel has approximately 27.5 m on 21 Street NE and is 1,250 m^2 in size. The property is designated Medium Density Residential in the City's Official Community Plan (OCP) and zoned Medium Family Residential (R-4) in the Zoning Bylaw as shown in APPENDICES 3 and 4 respectively. A Preliminary Subdivision Review (18.24) was issued in November 2018 for a proposed two lot subdivision.

The adjacent land uses are described as follows:

North: Single Family Residential (R-1)
South: Medium Density Residential (R-4)
East: 21 Street NE / Medium Density Residential (R-4)
West: Medium Density Residential (R-4)

The subject property does have a Section 219 Land Title Act covenant (KP013969) registered on title from February 2000 restricting any further construction or development until approved by the Ministry of Transportation and Infrastructure. MOTI will have to approve the rezoning bylaw and has given preliminary approval.

COMMENTS

Ministry of Transportation & Infrastructure

MOTI has granted preliminary approval.

Fire Department

No concerns.

Building Department

No concerns with rezoning application.

Engineering Department

Comments pending.

Planning Department

The applicant is requesting to rezone the subject property in addition to requesting a variance to the Zoning Bylaw.

Medium Density Residential (R-4) to Residential Suite (R-8)

The subject property is designated Medium Density Residential in the City's OCP and zoned R-4 in the Zoning Bylaw. Both the R-4 and R-8 zones are supported within the Medium Density designation. Therefore the current proposal is consistent with the OCP land use designation; however the reduction in density does not reflect the highest and best use of the land from a long term planning perspective. With the R-8 zoning and development, no off-site servicing is required by the City's Subdivision and Development Servicing Bylaw; with the R-4 zoning and development, works and services are required along 21 Street NE (sidewalk and boulevard). Similar to other recent down-zonings approved by Council, staff understands that development costs and market demand are vital considerations to builders and no minimum density policies exist in the City's OCP.

Based on the property's size of 1,250 m^2 / 0.125 ha the maximum density with the R-4 designation would be five units. If the proposal moved forward, and was supported by Council, the property would net two units each with attached suites (each lot would be too small for a detached suite). Given the size and scale of the property the loss in density is considered minimal by staff.

Variance - Minimum Parcel Width

The applicant is requesting a variance to the minimum parcel width from 14.0 m to 13.7 m to accommodate a two lot subdivision. Each lot would be 30 cm less than the minimum width prescribed for a lot zoned R-8. No impacts are anticipated. Other zones including the R-4 (Medium Density Residential)

allow for a minimum 10 m parcel width in addition to some Comprehensive Development Zones which have been approved.

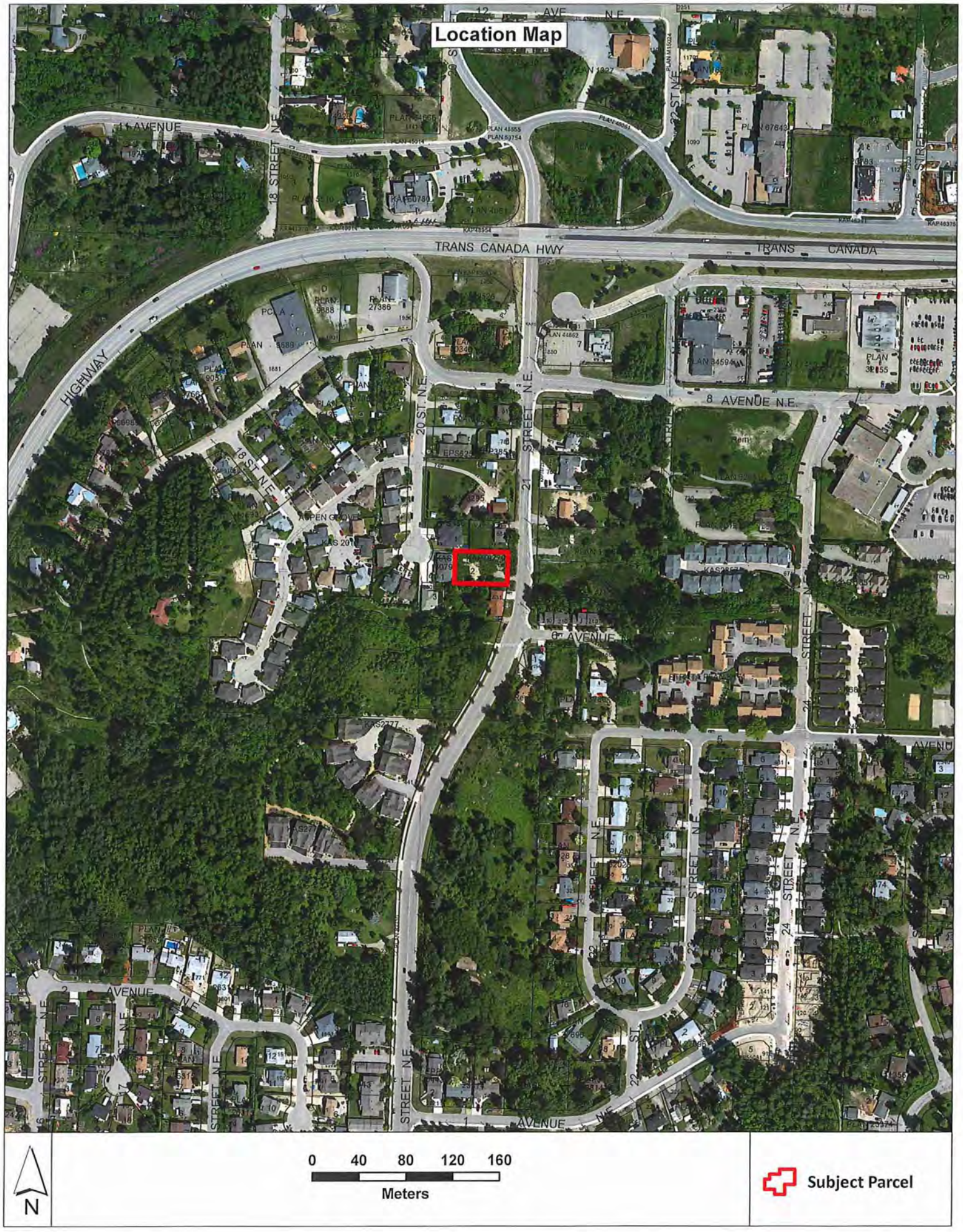
CONCLUSION

The requested zoning amendment to R-8 (Suite Residential) and the requested variance for minimum parcel width to accommodate a two lot subdivision is recommended for approval by staff for the above noted reasons.

Prepared by: Wesley Miles, MCIP, RPP
Planning and Development Officer

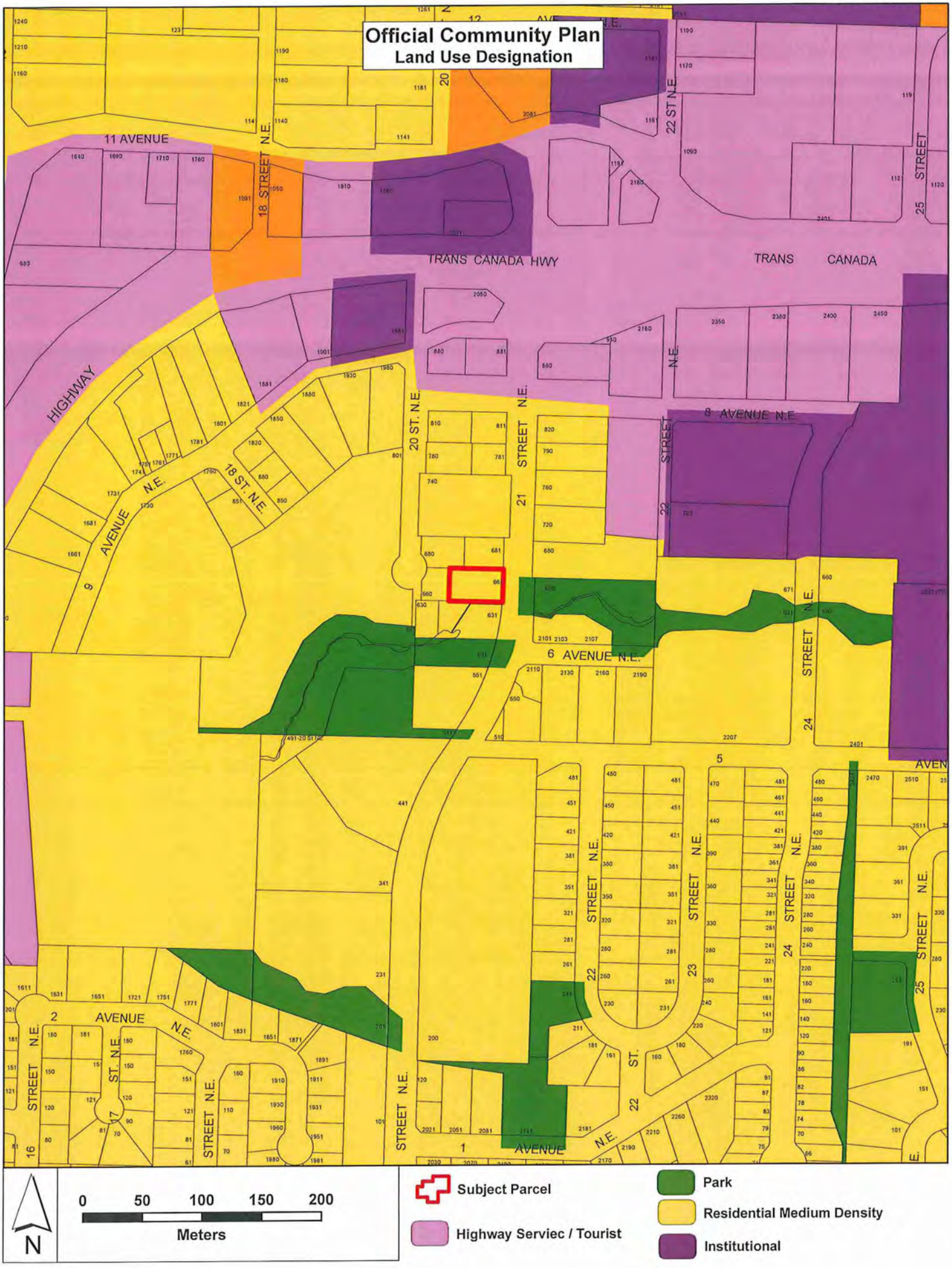
Reviewed by: Kevin Pearson, MCIP, RPP
Director of Development Services

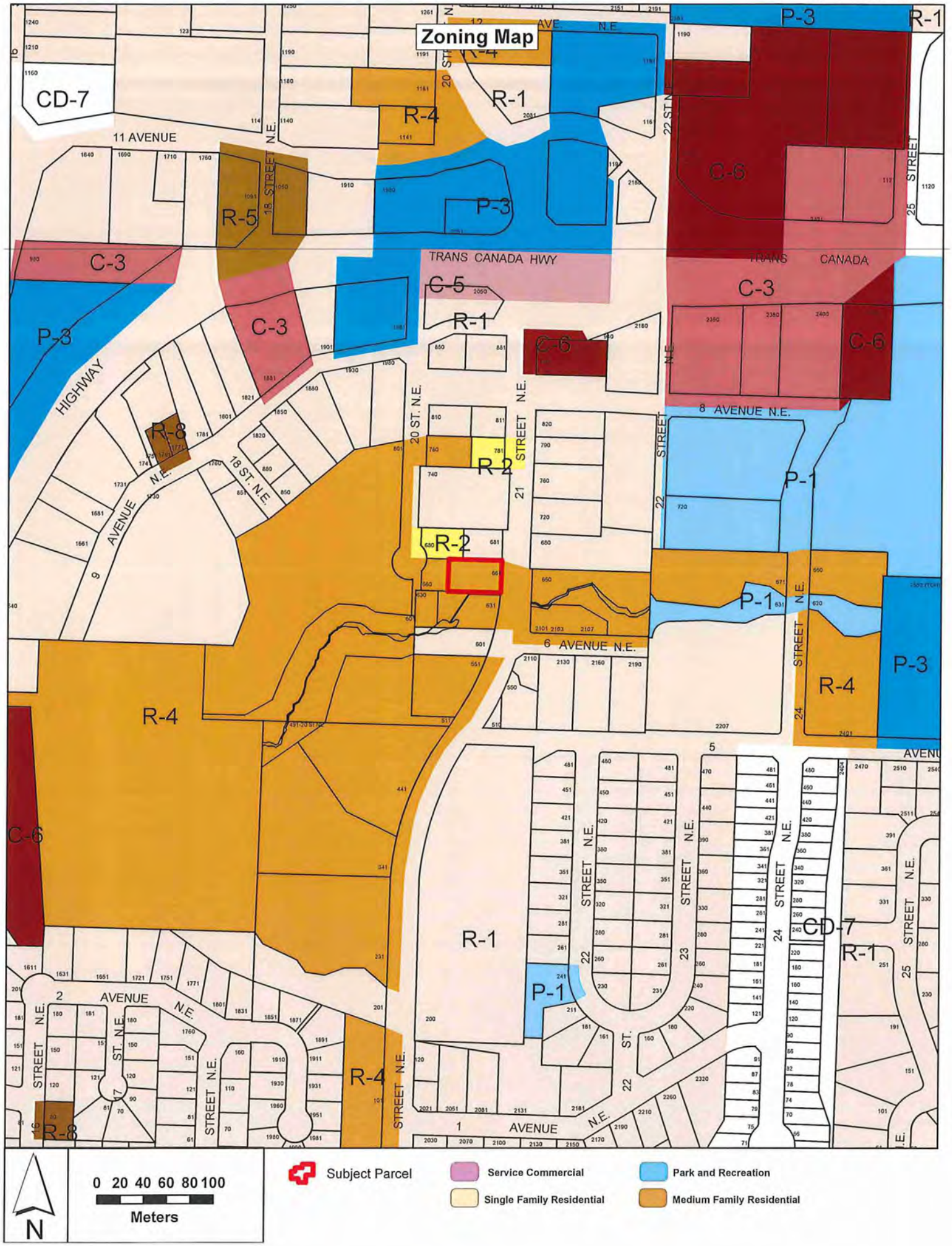
APPENDIX 1

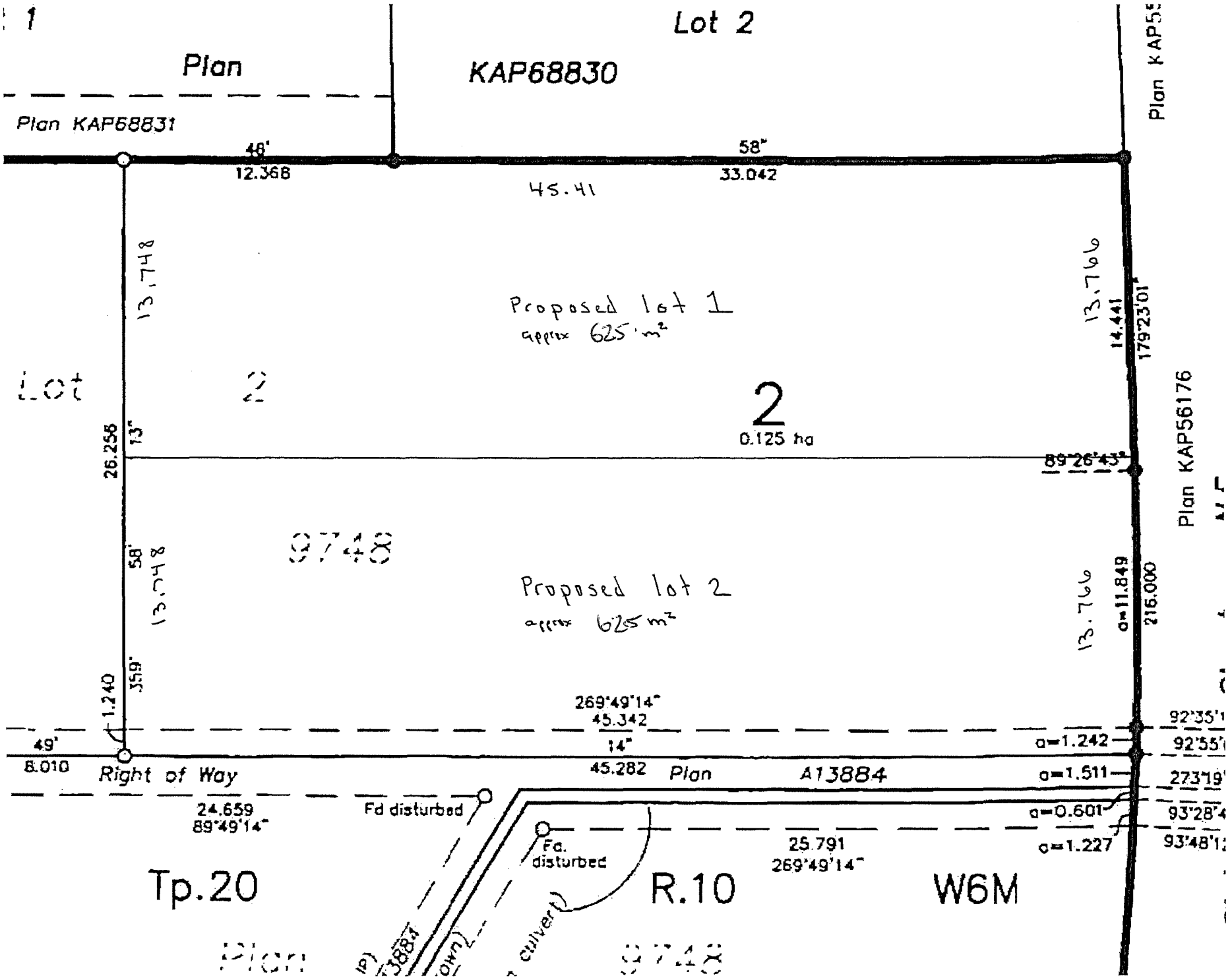

Location Map
12 AVE N.E.
11 AVENUE
18 STREET N.E.
22 ST NE
TRANS CANADA HWY
TRANS CANADA
HIGHWAY
20 ST. N.E.
21 STREET N.E.
8 AVENUE N.E.
18 ST NE
ASPEN GROVE
6 AVENUE
AVENUE N.E.
STREET N.E.
1 AVENUE
0 40 80 120 160
Meters
N
Subject Parcel

APPENDIX 2


Orthophoto
KAP79770
2
1
3
4
631
661
N
0 6 12 18 24
Meters
Subject Parcel


Official Community Plan
Land Use Designation
11 AVENUE
TRANS CANADA HWY
TRANS CANADA
HIGHWAY
9 AVENUE N.E.
8 AVENUE N.E.
6 AVENUE N.E.
2 AVENUE N.E.
1 AVENUE N.E.
18 STREET N.E.
20 ST. N.E.
21 STREET N.E.
22 ST N.E.
25 STREET
18 ST. N.E.
STREET N.E.
0 50 100 150 200
Meters
N
Subject Parcel
Highway Serviec / Tourist
Park
Residential Medium Density
Institutional


Zoning Map
CD-7
R-4
R-1
P-3
R-1
11 AVENUE
18 STREET N.E.
R-5
C-6
25 STREET
C-3
TRANS CANADA HWY
TRANS CANADA
C-5
R-1
C-3
P-3
C-3
C-6
C-6
HIGHWAY
R-8
9 AVENUE N.E.
18 ST. N.E.
20 ST. N.E.
STREET N.E.
R-2
8 AVENUE N.E.
22 STREET
P-1
21
R-2
P-1
6 AVENUE N.E.
STREET N.E.
R-4
P-3
24
R-4
C-6
5
AVENU
R-1
STREET N.E.
22
23
24
CD-7
R-1
P-1
25
STREET N.E.
2 AVENUE N.E.
STREET N.E.
ST. N.E.
17
STREET N.E.
R-4
R-8
STREET N.E.
22 ST.
1 AVENUE N.E.
0 20 40 60 80 100
Meters
N
Subject Parcel
Service Commercial
Park and Recreation
Single Family Residential
Medium Family Residential


Lot 2
Plan KAP68830
Plan KAP68831
Plan KAP5
48'
12.368
58"
33.042
45.41
13.748
13.766
Proposed lot 1
approx 625 m²
2
0.125 ha
14.441
179°23'01"
Plan KAP56176
26.256
13"
89°26'43"
58'
13.748
13.766
Proposed lot 2
approx 625 m²
a=11.849
216.000
35.9'
1.240
269°49'14"
45.342
92°55'1
49'
8.010
14"
45.282
Plan A13884
a=1.242
a=1.511
a=0.601
a=1.227
Right of Way
24.659
89°49'14"
Fd disturbed
Fd. disturbed
25.791
269°49'14"
Tp.20
R.10
W6M
culvert

APPENDIX 5

CITY OF SALMON ARM

TO: His Worship Mayor Harrison and Members of Council

FROM: Director of Development Services

DATE: December 7, 2018

SUBJECT: Variance Permit Application No. VP-487 (Parcel Coverage)
Legal: Strata Lot 21, Section 18, Township 20, Range 9, W6M, KDYD, Plan EPS2062
Civic Address: 21-481 Hwy 97B NE (Carriage Lane)
Owner/Applicant: Paul & Virginia Cox

MOTION FOR CONSIDERATION

THAT: **Development Variance Permit No. VP-471 be authorized for issuance for Strata Lot 21, Section 18, Township 20, Range 9, W6M, KDYD, Strata Plan EPS2062 which will vary Mobile Home Park Bylaw No. 1435 as follows:**

1. **Section 4.06 Site Coverage – Increase the maximum site coverage from 35% to 41.2%.**

STAFF RECOMMENDATION

THAT: The motion for consideration be adopted.

PROPOSAL

The subject property is located at 21-481 97B NE in the Carriage Lane bare-land strata development (APPENDICES 1 and 2). The property is under permit for a modular home with attached garage. The applicants are requesting that the maximum site coverage be increased from 35% to 41.2% as outlined in the motion for consideration.

The site plan and proposed building layout are shown in APPENDIX 3 and a rationale letter attached as APPENDIX 4.

BACKGROUND

The property is designated Low Density Residential in the City's Official Community Plan (OCP) and zoned R-6 (Mobile Home Park) in the City's Zoning Bylaw. The property is completely within the ALR but within the Urban Containment Boundary. Carriage Lane is a phased bare-land strata development consisting of 30 bare-land strata lots. Adjacent land uses include the following:

North: Common Access Road / Mobile Home Park Residential (R-6)
South: Common Area / Mobile Home Park Residential (R-6)
East: Mobile Home Park Residential (R-6)
West: Mobile Home Park Residential (R-6)

COMMENTS

Fire Department

No concerns.

Building Department

No concerns.

Engineering Department

No concerns.

Planning Department

The R-6 zoning of the property dates back to 1977 and coincided with the Agricultural Land Commission's Non-Farm Use approval in 1979 for a mobile home park on the western portion of the original parcel at that time. The subject property is approximately 505 m^2 in area which is over the minimum lot size of 450 m^2 for a double wide modular home. The R-1 Single Family Residential Zone has the same minimum lot size requirement however allows for 45% parcel coverage. A previous variance (VP-210) was granted in 2002 for the Crystal Springs bare-land strata mobile home park development for lots 1 through 15. It permitted an increase in site coverage from 35% to 45%. Other similar variances have been granted for the Uplands and Willow Cove subdivisions and most recently (VP-438 & VP-471) for Lots 19 & 9 of Carriage Lane were granted in 2016 and 2018 to allow for increased lot coverage. The R-6 Zone itself does not have a maximum parcel coverage or minimum setback regulation; it defers to the Mobile Home Park Bylaw for those requirements. The Mobile Home Park Bylaw is old and when it is adopted, it did not contemplate double wide modular homes which essentially resemble single family dwellings. Single wide mobile homes within the older mobile home parks did not need high parcel coverage.

The requested variance is not anticipated to have any significant impact on the surrounding properties as all the required setbacks are being met and the site coverage is within the comparable provisions of the R-1 zone. In addition, it is consistent with previous approvals and with less than 45% total site coverage.

CONCLUSION

The requested variance to increase the maximum site coverage from 35% to 41.2% to accommodate the construction of a modular home with attached garage is recommended for approval by staff for the reasons noted above.

Prepared by: Wesley Miles, MCIP, RPP
Planning and Development Officer

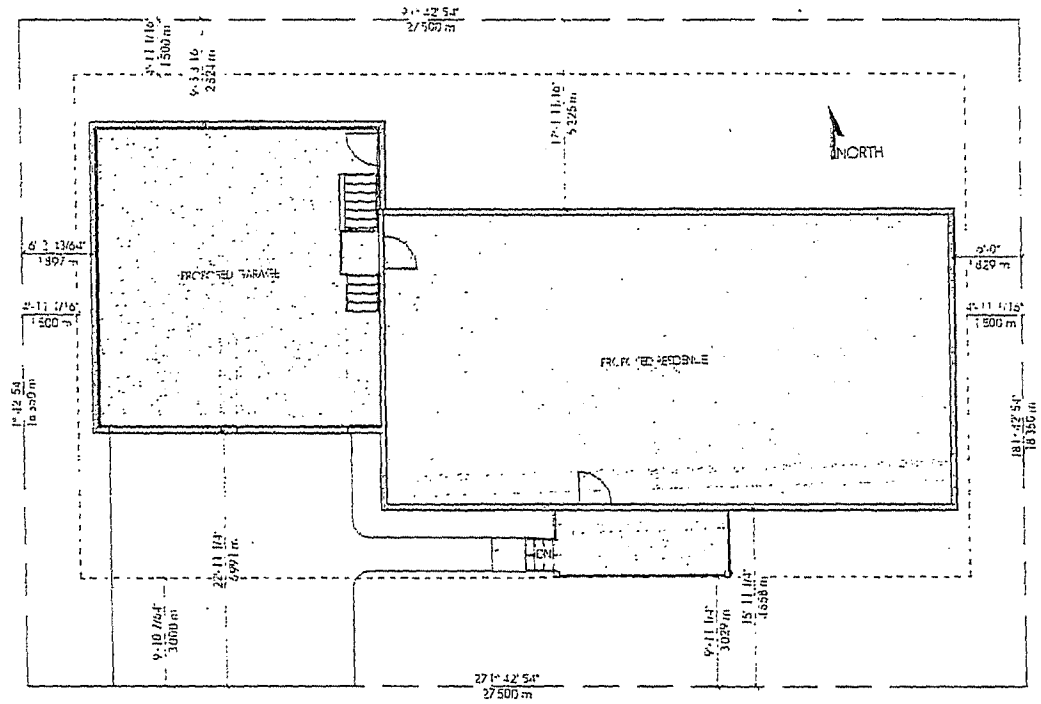
Reviewed by: Kevin Pearson, MCIP, RPP
Director of Development Services

APPENDIX 1


Location Map
HIGHWAY 97B
Rem 1
EPP5053
EPP32065
PLAN B116
N
0 40 80 120 160
Meters
Subject Parcel


Orthophoto
EPP5053
N
0 5 10 15 20
Meters
Subject Parcel

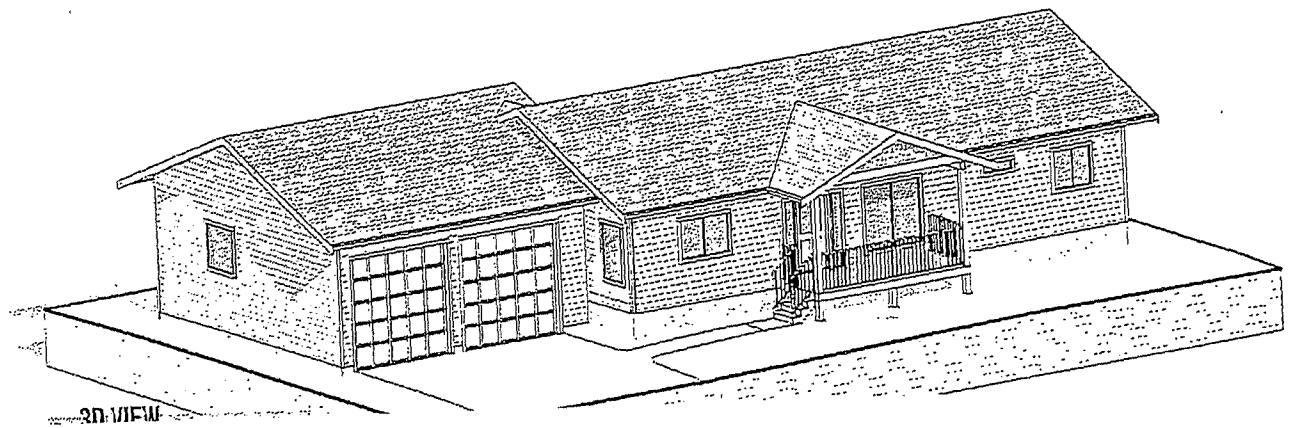
APPENDIX 3



2 SITE 1:100 COMMON ACCESS

PROPOSED RESIDENCE
LOT 6 (SL 21, PHASE 9)
CARRIAGE LANE
SALMON ARM, B.C.

LOT COVERAGE
LOT AREA 504.6 M2
BUILDING AREA 208.1 M2 *INCLUDES DECK, ENTRANCE)
RATIO 41.2%



3D VIEW

745 Gardom Lake Rd,
Enderby, BC
V0E 1V3

Nov 2, 2018

Rationale for Variance.

We are at a stage in our lives where we want a large enough home for us & our children when they visit.

We like the idea of having less area to landscape.

We want a garage big enough to house our small motorhome.

Thank you for this consideration.

Regards,

Virginia & Paul Cox

V. Cox.

CITY OF
SALMON ARM

TO: His Worship Mayor Harrison and Council

DATE: December 17, 2018

SUBJECT: Feasibility of installing green technology on a City owned facility

BACKGROUND:

At the March 26, 2018 Regular Meeting of Council, the following Resolution was adopted:

WHEREAS: the City of Salmon Arm, as a signatory to the BC Climate Action Charter, acknowledges that climate change is a reality and has the goal to move towards carbon neutrality with respect to the City's operations;

AND WHEREAS: cities can take a leadership role in demonstrating alternative energy options,

THEREFORE BE IT RESOLVED THAT: the City consider initiating a grid-tied net metering Solar Photo Voltaic Pilot Project on a City property with all data and live metrics of the project to be readily shared with the public;

AND THAT: staff report back regarding:

(a) potential viable sites;
(b) the cost estimates including site audits, installation, grid connections and estimated annual maintenance of the recommended panel sizing and configuration;
(c) estimates of energy generation and payback length; and
(d) recommendations of how best to structure usage agreements where tenants of leased city properties currently pay for the electricity they use if that city building is a potentially viable site.

AND FURTHER THAT: the costs associated with this pilot project, including auditing of potential sites, installation, connections and three (3) years of annual maintenance be funded from the Climate Action Reserve.

Solar Energy is a renewable resource that uses the sun's rays to generate electricity. Solar Photo Voltaic (PV) cells harvest the sun's energy and convert it into electricity. PV systems are comprised mainly of solar panels, inverters, breakers and mounting equipment. A solar panel generates power by converting sunlight to direct current electricity. Inverters are then used to convert the direct current electricity to alternating current electricity to be used in homes or businesses (BC Hydro).

The amount of Solar energy that arrives at a specific area at a specific time is referred to as solar irradiance. Solar irradiance is only available during the day and it is affected by clouds, making it an intermittent source of energy. Furthermore, sunlight varies day to day, month to month, year to year but most importantly, it varies per location. For any solar installation, the savings are the avoided costs to the utility company moving forward. Therefore, the cost of electricity or gas has a direct effect in the solar system's economics (https://sustain.ubc.ca/sites/sustain.ubc.ca/files/GCS/2016%20Project%20Reports/Solar%20Energy%20Feasibilty%20Study%20at%20Park%20Board%20Buildings%20and%20Facilities_Medina%20_2016.pdf).

The data below represents averages for the years 1981 to 2010 (https://www.currentresults.com/Weather/Canada/British-Columbia/sunshine-annual-average.php).

Average sunlight in neighbouring communities:

43%	Kamloops	2080 hrs	316 days
40%	Kelowna	1949	304
40%	Penticton	1923	304
42%	Vernon	2027	301

According to the British Columbia Sustainable Energy Association, Net Metering is the fastest growing use for solar electricity. Net Metering is a program whereby eligible building owners can reduce their net energy demand by supplying their building with solar electricity which exports surplus generated energy back onto grid for credit against the energy the building consumes from the grid (https://www.bcsea.org/solar-photovoltaic-0). Fortis BC is the supplier of electricity in Salmon Arm.

The FortisBC Net Metering program allows residential and commercial customers to offset part or all of their own annual requirements for electricity through generating their own clean energy. Customers are credited for the net energy they produce at their existing retail rate; however the program is not designed for customers

who generate electricity in excess of their annual requirements (https://www.fortisbc.com/Electricity/CustomerService/NetMeteringProgram/Pages/default.aspx).

Over the last ten years, the City has undertaken steps to identify and reduce energy and GHG emissions. Most notable are the following:

2008 Energy and Greenhouse Gas Emissions Study
In October of 2008 Council received the City of Salmon Arm Energy and Greenhouse Gas Emissions Study completed by Urban Systems, providing a description of initiatives that the City could undertake to reduce emissions and energy consumption and how the Climate Action Reserve may be best directed. Over time, the City has acted on several of these recommendations as guidance for initiatives funded by the Climate Action Reserve.

2010 Facility Reports
In June 2010, following the broad direction of the City of Salmon Arm Energy and Greenhouse Gas Emissions Study, four specific facility energy studies were completed by Golder and Associates to analyze the public works building, recreation centre, arena, and RCMP building, the City's largest producers of GHG emissions (the arena and rec centre produce roughly 40% of the City's emissions). The report recommended the installation of a Solar Domestic Hot Water Heating System at the Rec Centre, at an estimated cost of $65,000 and 38 year payback.

In discussions with the District of Summerland's Sustainability/Alternative Energy Coordinator, City staff was advised that the best return on investment, in terms of energy cost savings while implementing methods to reduce GHG emissions from existing buildings, often involves improving building efficiencies with improved insulation, windows, materials and mechanical equipment. As far as PV technology is concerned, solar hot water and "solar walls" were cited as better options for GHG reduction. Furthermore, obtaining advice and expertise from a particular vendor versus an independent consultant carries risk. One BC municipality was referenced as having invested substantially in a particular solar project after which time the vendor went out of business and was unable to honor warranty work on equipment failure.

In the report entitled *Community Commitments to Renewable Energy in BC*, completed in 2015 by Avis Petersen and Dale Littlejohn of Community Energy Association for BC's Climate Action Secretariat and Ministry of Energy and Mines, an initial analysis of the most popular community renewable energy technologies in BC was undertaken (see table below). This analysis examines the return on investment in a number of technologies. Petersen and Littlejohn concluded that energy efficiency in local government buildings may provide the greatest short-term opportunity with limited funding availability (Community Commitments to Renewable Energy in BC, http://communityenergy.bc.ca/wp-content/uploads/dlm_uploads/2015/08/Community-Renewable-Energy-Commitments-20150716.pdf)

Technology	Overall Appeal	Lead Time	Interest Level	Investment (low)	Investment (high)	# possible	GHG's	Energy potential
District Heating	Not many and often initially NG	3-7 years	Not suited for low density	0.5M	26M			
Solar Hot Water	Not sure of current momentum	1-3 years	SolarBC	0.3M	1M			
Biomass (Building)	Big opportunity in small communities & non-gas-grid	2-5 years	Municipal Waste	0.3M	0.5M			
Geo-exchange	Typically new-build, lots of small opportunities	1-2 years	Not as location specific	37k	4.5M			
Waste Heat Recovery	Fewer and some complexities (permanence,...)	2-5 years	Sporting Complexes	85k	11M			
Photovoltaics	Emerging opportunity, but does it advance objectives?	1-5 years	Easy installation	30k	3M			

Legend: Good opportunity – short term returns | Average opportunity – Best medium term effects | Poor opportunity – Long term or least beneficial returns

There are a number of examples throughout the province of solar projects but the available information is not consistent. While the offsets from Net Metering may be beneficial in the long-term, it would likely take many years to recoup the cost of a photo voltaic system, if ever. Such systems have an expected lifespan of 25 years and could cost anywhere from $150,000.00 - $300,000.00 to install, depending on the location. It should also be noted that various atmospheric and environmental factors (clouds, smoke, snow cover, dust/dirt etc) and interference from birds and wildlife may present challenges for such systems and result in greater than expected reliance on the grid; however, the technology has become more efficient over time and as a result the impact may not be significant.

Potential locations for the roof top solar panels could be:

At existing locations:

- Art Gallery (retrofit); or
- Shaw Centre (retrofit).

At proposed locations:

- Aquatic centre (new project); or
- Parkade at 4th Street (new project).

The design and orientation of a building are important factors to consider when deciding whether it is a good location for a solar project. Typically, retrofits are less effective than installations on new buildings. The existing roofing material and structural integrity of older buildings can pose a significant challenge when installing solar panels.

If Council wishes to pursue the feasibility of installing green technology / renewable energy system on a City owned facility, including obtaining cost estimates (as well as site audits, installation, grid connections and estimated annual maintenance of the recommended panel sizing and configuration); estimates of energy generation and payback length; and recommendations of how best to structure usage agreements, it is recommended that the City engage a consultant, for a cost of approximately $10,000.00 (to look at feasibility of retrofitting an existing City building). At present, the balance of the Climate Action Reserve account is $2,500.00.

While some local and regional companies offer no-cost / no-obligation estimates, it would be most productive to engage a consultant (as noted above) who could provide the following:

- Cost / benefit analysis;
- Site assessment;
- System design
- Long term operations and maintenance requirements;
- Permits; and
- Installation.

A structural engineering assessment for additional loading from the solar panel mounting structure onto the roof of an existing building will be necessary. Typically, building roofs have an additional capacity to support extra loads such as dead, live or environmental loads. However, a structural inspection or audit to determine the amount of that additional capacity compared to all loads being applied with the installation of panels is recommended. Ideally, the pilot project would be initiated on a new building (i.e. new parkade or aquatic facility) as it could be addressed in the design phase, thereby avoiding potential issues at the time of construction instead of having to work around them in a retrofit.

The Shuswap Recreation Society has investigated the installation of solar panels at Shaw Centre but it has proven difficult to ascertain what the benefit might be. PV systems are only capable of reducing the use of fossil fuels but not eliminating them in their entirety, making them ineffective to significantly reduce GHGs.

While the pursuit of green technology is important and shows leadership by Council, the economic benefits are often speculative at best. Take, for example, the Geothermal system at City Hall. While this is a sustainable and more environmentally friendly method than

utilizing conventional heating sources, the operating and maintenance costs routinely outweigh any energy savings.

Respectfully submitted,

Carl Bannister, MCIP, RPP
Chief Administrative Officer