Memo

To: Rob Perissinotti, P.Eng., Development Engineering, City of Windsor
Jim Abbs, Senior Planner, City of Windsor

From: Kyle Edmunds, P.Eng., Dillon Consulting Limited
Dhruv Moradiya, EIT, Dillon Consulting Limited

cc: Amy Farkas, MCIP RPP, Dillon Consulting Limited

Date: July 23, 2025

Subject: Farhi Holdings Corporation – Lauzon at Spitfire Way Development – Servicing Strategy

Our File: 23-6213

1.0 Introduction

Dillon Consulting Limited (Dillon) was retained by Farhi Holding Corporation to review the municipal servicing capacity for the subject property located at lot 0 Spitfire Way, southeast corner of Lauzon Road in the City of Windsor. The subject site is approximately 1.98 ha in size, and currently a vacant undeveloped land. The subject site is bounded by a residential subdivision and a multiple dwelling residential development to the north, vacant land to the east, commercial developments to the west and south limits. This memo provides the approach to managing municipal servicing for the subject site. The information below is to support the future development and confirm sanitary, stormwater management and watermain servicing available to the subject development.

The proposed development will consist of two 7-storey multiple dwelling residential buildings. When developed, the proposed site will be inclusive of 122 residential units, 180 m^2 of commercial space, 184 on grade and 181 satellite parking spaces. In addition, there is an additional parking lot proposed for the adjacent multiple dwelling residential development to the north.

2.0 Transportation Servicing

2.1 Existing Conditions

The subject site is bounded by Spitfire Way to the north, Via Rail tracks to the south and Lauzon Road to the west. The proposed site does not currently have a direct access to the municipal roadway.

2.2 Proposed Roadways

The proposed primary access point to the subject site will be from Spitfire Way, on the north side. The boulevard area will be restored in the surrounding area of the proposed development to the City of Windsor standards.

The pavement structure of the proposed development will be consistent with geotechnical report recommendations.

A Traffic Impact Study (TIS) was not required for this development; however, the subject area was included in a TIS that was prepared by Dillon Consulting Limited in 2019 for the former Lear site subdivision ('Rosewater Estates')

3.0 Sanitary Servicing

3.1 Existing Conditions

There is an existing 300mm diameter sanitary sewer main available along Spitfire Way flowing westerly into the existing 600mm diameter sanitary trunk sewer via an existing sanitary manhole '6S742' at the intersection of Spitfire Way and Lauzon Road. There is an existing 300mm diameter sanitary stub provided to the site along Spitfire Way to the north side. The sanitary flows from the existing developments in the surrounding area are ultimately conveyed to the Little River Pollution Control Plant. The proposed development has been assessed into the 'Functional Servicing Study' (Dillon Consulting Limited, July 2019) as a commercial development.

3.2 Design Criteria

The following sanitary sewer design criteria for this property were established by The City of Windsor Development Manual (May 2015) and referenced to determine the design criteria in the 'Functional Servicing Study' (Dillon Consulting Limited, July 2019).

Table 1 Sanitary Sewer Design Criteria

	Criteria
Hydraulic sewer sizing	Manning's Equation
Minimum Sewer Size (mm)	250 diameter
Minimum Cover Depth (m)	2.40
Manning's Roughness Coefficient 'n'	0.013
Velocity: Minimum (m/s)	0.75 3.00

	Criteria
Maximum (m/s)	
Hydraulic Losses across manholes: Straight Run (mm) 45 degree turn or less (mm) Greater than 45 degree turn to 90 degree. Turn (mm)	 10 50 100
Peaking factor	City of Windsor Development Manual (Section 9.1.2)
Infiltration allowance/peak extraneous flow	0.1560 L/s/Ha
Population densities for: Residential Multi-unit Residential Commercial	 50 persons/Ha 2 persons/Unit 74 persons/Ha
Average daily sewage flow: Residential	 0.0042 L/s/Cap
Sewer Surcharging	Maximum hydraulic grade line with pump failure

3.3 Proposed Conditions

It is proposed to utilize the existing sanitary stub provided to the lot along Spitfire Way, to the north of the subject development. All sanitary flows will be conveyed to the 300mm diameter sanitary sewer main along Spitfire Way via the existing sanitary manhole '7S8027', which ultimately discharges into the existing 600mm diameter sanitary trunk sewer along Lauzon Road. Refer to Figure 1.0 (in Appendix A).

The invert elevations, estimated from the as-built drawings 'S-2094: Farhi Development in the City of Windsor (Dillon Consulting Limited, September 2021),' for the existing sewers and stubs, allows for 2.4m cover at the top end of the internal sewers.

The subject site was identified as a commercial development during the determination of the servicing strategy of the overall development. Based on the City of Windsor's Development Manual (May 2015) and the Design Guidelines for Sewage Works (MOE, 2008), the average population density for commercial development is 74 persons/ha, that estimates 4 L/s sanitary flows from the subject development. However, the proposed mixed use of the subject site utilizes 2 persons per unit population density for multi-unit residential and 74 persons/ha for commercial development. It generates 6.51 L/s sanitary flows from the proposed site. Refer to Table 2 for comparison of flows from the subject development.

Table 2 **Estimated** Sanitary Flows

Commercial Sanitary Flows	Multi-unit Residential Sanitary Flows
4 L/s	6.51 L/s

A sanitary sewer assessment has been completed to evaluate the available capacity of the Lauzon Road trunk sewer and assess its impact on the downstream system. Refer to Figure 2.0 (in Appendix B). The existing sanitary sewers have adequate capacity to accommodate flows from the proposed development.

The future detailed design of the internal sanitary sewers and services are to be consistent with the requirements of the City of Windsor and the Ontario Building Code (OBC).

4.0 Stormwater Servicing

4.1 Existing Servicing

The proposed development land is currently former industrial undeveloped land. All flows from the site flow through the original 2m culvert to the Little River Drain.

An existing 600mm diameter storm stub has been provided to the subject site and flows into the existing storm manhole 7R8018. This ultimately conveys flows to the existing stormwater management facility, located north of Kerr Court. The existing stormwater pond was designed with the proposed site as a commercial development.

4.2 Proposed Servicing

The proposed internal storm sewers will be designed to have sufficient conveyance for the 5-year design event peak flows. The 600mm diameter storm will be utilized to convey the flows from the proposed development.

A 'Stormwater Management Report: Former LEAR Site Redevelopment' was developed by Dillon Consulting Limited in October 2019, in support of the overall development. The subject site was identified as a future commercial development during the assessment. Based on the design strategy for the proposed site described in the stormwater management report section 5.3, the on-site storage is required to provide peak flow attenuation. The estimated required on-site storage for the proposed site is 199 m^3.

The existing stormwater pond has adequate capacity to accommodate the runoff from the subject site. The required on-site stormwater storage can be achieved through the parking (surface storage), underground storage, and flow control devices. The most feasible approach will be considered during the detail design of the site services at the Site Plan Control phase. Acceptance of this strategy is to be discussed with the City of Windsor, prior to the detailed design.

5.0 Watermain Servicing

5.1 Existing Conditions

The existing municipal watermains available in the surrounding area are:

- An existing 300mm diameter watermain is available along Spitfire Way, north of the proposed development.
- An existing 300mm diameter watermain is available along Lauzon Road, west of the proposed development.

5.2 Proposed Conditions

The proposed development will be serviced by a new 200mm diameter watermain connection, extended from the existing 300mm diameter watermain available along the Spitfire Way. Refer to the attached Figure 1.0 (in Appendix A).

No pressure/flow test has been completed for this development. During detailed design, pressure testing of existing watermains may be required to confirm the available fire flow.

The detailed design of the watermain services is to be consistent with the requirements of the Windsor Utility Commission (WUC). Placement of hydrants for adequate fire protection will be completed during detailed design.

Due to the height of the proposed building, during the detailed design an analysis will need to be completed to determine if a building booster pump is required to provide adequate water pressure through out the building.

6.0 Utilities

6.1 Gas

Enbridge currently has buried gas services along Spitfire Way and Lauzon Road. Coordination with Enbridge will be engaged during the site plan control phase to confirm loading and supply point to the proposed building.

6.2 Bell

Bell currently has aerial services along Lauzon Road and buried services along Spitfire Way. Coordination with Bell will be provided during the site plan control phase to confirm servicing for the proposed building.

6.3 Cogeco

Cogeco currently has aerial services along Lauzon Road and buried services along Spitfire Way. Coordination with Cogeco will be provided during the site plan control phase to confirm servicing for the proposed building.

6.4 MNSi

MNSi currently has aerial services along Lauzon Road and buried services along Spitfire Way. Coordination with MNSi will be provided during the site plan control phase to confirm servicing for the proposed building.

6.5 EnWin (Hydro)

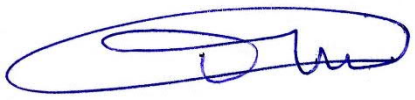
Existing overhead hydro is available to the Lauzon Road and underground hydro on Spitfire Way. Coordination with Enwin will be provided during site plan control phase to confirm servicing for the proposed building.

7.0 Conclusion

The review of the adjacent services has been found to be sufficient for the proposed development. The design of the proposed internal services will be finalized during Site Plan Control.

Yours sincerely,

DILLON CONSULTING LIMITED



Kyle Edmunds, P.Eng.,
Project Engineer

Dhruv Moradiya, EIT,
Project Designer

APPENDIX A

Conceptual Servicing Plan

FARHI HOLDINGS CORPORATION
NORTHEAST LAUZON ROAD & VIA RAIL INTERSECTION

CONCEPTUAL SERVICING PLAN
FIGURE 1.0

SUBJECT AREA (± 1.98ha / 4.89ac)

PROPOSED BERM

PROPOSED MULTI-RES BUILDING (120 UNITS)

PROPOSED LANDSCAPED OPEN SPACE (41% incl. berm)

PROPOSED SIDEWALK

PROPOSED OFF SITE PARKING (± 0.37ha / 0.92ac) / (85 spaces)

EXISTING SANITARY SEWER
EXISTING STORM SEWER
EXISTING WATERMAIN

PROPOSED SANITARY SEWER
PROPOSED STORM SEWER
PROPOSED WATERMAIN

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SOURCE: THE COUNTY OF ESSEX INTERACTIVE MAPPING (2024)

MAP/DRAWING INFORMATION
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PROJECT: 23-6213
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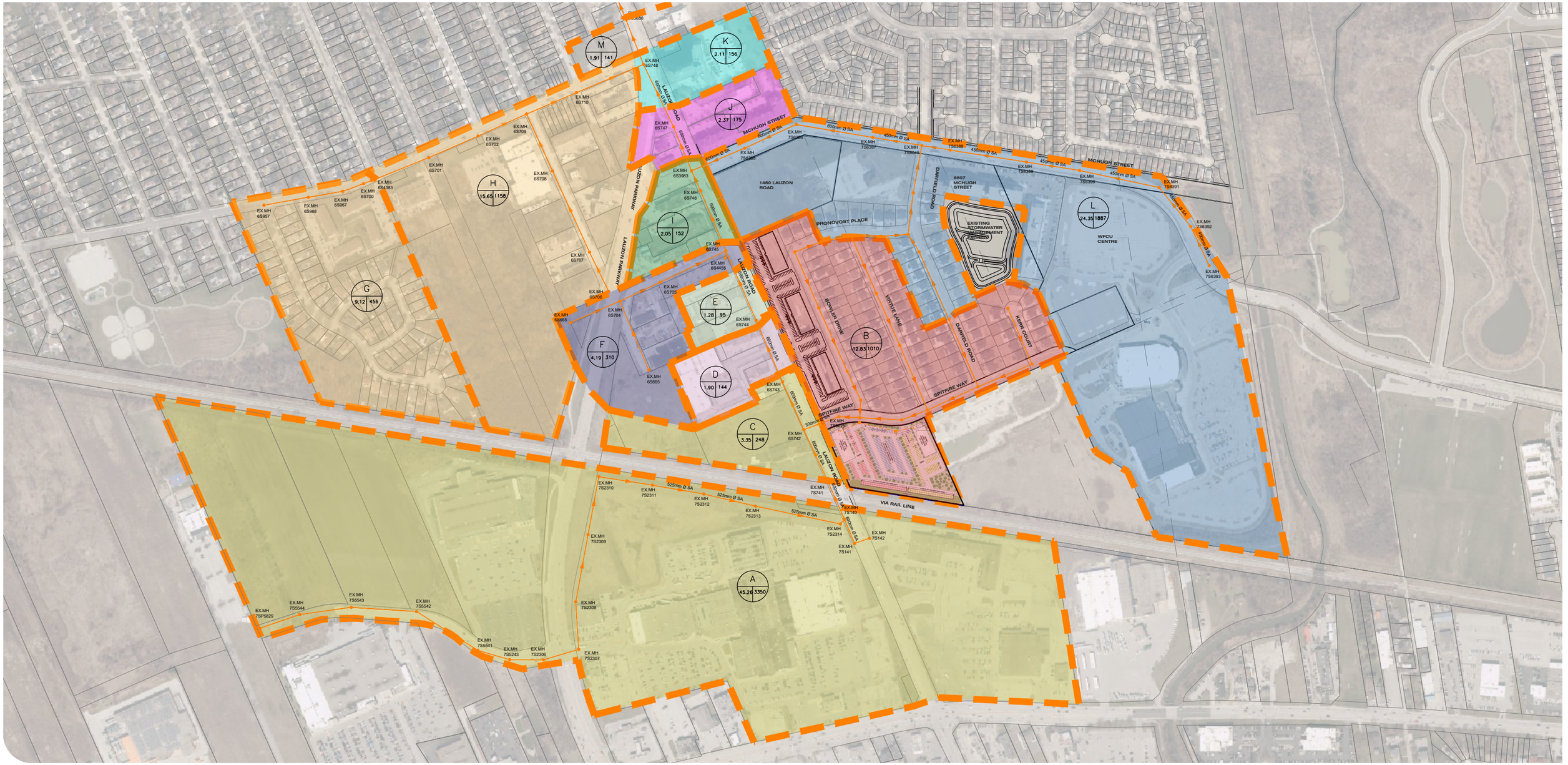
DATE: 2025-07-18

APPENDIX B

Sanitary Sewer Analysis



FARHI HOLDINGS CORPORATION
NORTHEAST LAUZON ROAD & VIA RAIL INTERSECTION

SANITARY CAPACITY ASSESSMENT
FIGURE 2.0

SUBJECT AREA (± 1.98ha / 4.89ac)

PROPOSED BERM

PROPOSED MULTI-RES BUILDING (120 UNITS)

PROPOSED LANDSCAPED OPEN SPACE (41% incl. berm)

PROPOSED SIDEWALK

PROPOSED OFF SITE PARKING (± 0.37ha / 0.92ac) / (85 spaces)

EXISTING SANITARY SEWER

EXISTING SANITARY MANHOLE

SANITARY DRAINAGE CATCHMENT AREA

CATCHMENT ID — ID
AREA IN ha — AREA | POP — TOTAL POPULATION

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DILLON CONSULTING

PROJECT: 23-6213
STATUS: DRAFT
DATE: 2025-07-18

FARHI NEIGHBORHOOD DEVELOPMENT
SANITARY SEWER DESIGN SHEET - LAUZON AT SPITFIRE

Project Name: FARHI - LAUZON AT SPITFIRE DI
Project No: 23-6213
City of Windsor

The Peaking Factor was derived:
Using Harmon Formula= N (Y or N)
From a Table= Y
Value from table= 6.000

Residential Average Daily Flow= 363 L/Cap.D
Peak Extraneous Flow= 0.156 L/Ha.S

Outlet Invert Elevation= 171.893
Mannings 'n'= 0.013
Total Area= 126.400

Basement Floor Elevation =
or
Hydraulic Grade Line Cover = 2.40

Ground Elevation at Outlet = 177.600
HGL at Outlet = 177.360

Location			Flow Characteristics								Sewer Design/Profile										Cover			Hydraulic Grade Line		
ROAD/STN	LOCATION FROM MH	LOCATION TO MH	INDIVIDUAL POP	INDIVIDUAL AREA (ha.)	CUMULATIVE POP	CUMULATIVE AREA (ha.)	PEAKING FACTOR M	POP FLOW Q(p) (L/s)	PEAK EXTR. FLOW Q(i) (L/s)	PEAK DESIGN FLOW Q(d) (L/s)	CAPACITY (L/s)	LENGTH (m)	PIPE DIA. (mm)	Wall Thickness (mm)	SLOPE (%)	UPPER INVERT (m)	LOWER INVERT (m)	FALL (m)	VELOCITY (m/s)	DROP IN LOWER MANHOLE (m)	Ground Elevation Upper MH	Cover @ Up MH (m)	Cover @ Low MH (m)	HGL Elev at Upstream MH	HGL Elev vs. Grnd Elev @ Up MH	HGL Elev vs. Obvert @ Up MH
DARFIELD	7S8034	7S8033	14.0	0.28	14	0.28	6.000	0.353	0.044	**0.40**	**52.97**	35.9	300	11	**0.30**	175.163	175.055	0.108	0.75	0.030	177.427	1.953	2.299	178.051	CHECK HGL ELEV	OKAY
DARFIELD	7S8033	7S8032	53.0	1.06	67	1.34	6.000	1.689	0.209	**1.90**	**52.97**	120.0	300	11	0.30	175.025	174.665	0.360	0.75	0.030	177.665	2.329	2.682	178.051	CHECK HGL ELEV	OKAY
DARFIELD	7S8032	7S8029	54.0	1.08	121	2.42	6.000	3.050	0.378	**3.43**	**52.97**	120.0	300	11	**0.30**	174.635	174.275	0.360	0.75	0.100	177.658	2.712	3.304	178.050	CHECK HGL ELEV	OKAY
KERR CRT	7S8031	7S8030	57.5	1.15	58	1.15	6.000	1.449	0.179	**1.63**	**52.97**	99.0	300	11	**0.30**	174.888	174.591	0.297	0.75	0.100	177.382	2.183	3.001	178.049	CHECK HGL ELEV	OKAY
SPITFIRE	7S8030	7S8029	0.0	0.17	58	1.32	6.000	1.449	0.206	**1.66**	**52.97**	95.3	300	11	**0.30**	174.491	174.205	0.286	0.75	0.030	177.903	3.101	3.374	178.049	CHECK HGL ELEV	OKAY
SPITFIRE	7S8029	7S8028	0.0	0.17	179	3.91	6.000	4.500	0.610	**5.11**	**52.97**	91.0	300	11	0.30	174.175	173.903	0.273	0.75	0.030	177.890	3.404	3.751	178.049	CHECK HGL ELEV	OKAY
VIRTUE LN	7S8041	7S8044	45.0	0.90	45	0.90	6.000	1.134	0.140	**1.27**	**52.97**	103.5	300	11	0.30	174.966	174.656	0.310	0.75	0.030	177.596	2.319	2.825	178.049	CHECK HGL ELEV	OKAY
VIRTUE LN	7S8044	7S8045	50.0	1.00	95	1.90	6.000	2.395	0.296	**2.69**	**52.97**	93.0	300	11	0.30	174.626	174.347	0.279	0.75	0.030	177.792	2.855	3.015	178.049	CHECK HGL ELEV	OKAY
VIRTUE LN	7S8045	7S8028	45.0	0.90	140	2.80	6.000	3.529	0.437	**3.97**	**52.97**	114.9	300	11	0.30	174.317	173.973	0.345	0.75	0.100	177.673	3.045	3.681	178.048	CHECK HGL ELEV	OKAY
SPITFIRE	7S8028	7S8027	0.0	0.08	319	6.79	6.000	8.029	1.059	**9.09**	**52.97**	46.1	300	11	0.30	173.873	173.734	0.138	0.75	0.050	177.965	3.781	3.765	178.046	CHECK HGL ELEV	OKAY
SPITFIRE	7S8027	7S8026	0.0	0.12	319	6.91	6.000	8.029	1.078	**9.11**	**52.97**	69.4	300	11	0.30	173.684	173.476	0.208	0.75	0.030	177.810	3.815	4.162	178.042	CHECK HGL ELEV	OKAY
PRONOVOST	7S8041	7S8040	15.0	0.30	15	0.30	6.000	0.378	0.047	**0.42**	**52.97**	50.3	300	11	0.30	174.955	174.804	0.151	0.75	0.030	177.596	2.330	2.249	178.058	CHECK HGL ELEV	OKAY
PRONOVOST	7S8040	7S8039	13.5	0.27	29	0.57	6.000	0.718	0.089	**0.81**	**52.97**	46.5	300	11	0.30	174.774	174.634	0.140	0.75	0.100	177.364	2.279	2.609	178.058	CHECK HGL ELEV	OKAY
CONDO	PDC	7S8039	117.0	0.56	117	0.56	6.000	2.949	0.087	**3.04**	**46.38**	12.1	200	10	2.00	174.876	174.634	0.242	1.48	0.100	177.750	2.664	2.710	178.059	CHECK HGL ELEV	OKAY
BOWLER DR	7S8039	7S8038	20.0	0.40	166	1.53	6.000	4.172	0.239	**4.41**	**52.97**	99.0	300	11	0.30	174.534	174.237	0.297	0.75	0.030	177.554	2.709	3.048	178.058	CHECK HGL ELEV	OKAY
CONDO	PDC	7S8038	117.0	0.65	117	0.65	6.000	2.949	0.101	**3.05**	**46.38**	12.1	200	10	2.00	174.549	174.307	0.242	1.48	0.100	177.800	3.041	3.079	178.057	CHECK HGL ELEV	OKAY
BOWLER DR	7S8038	7S8037	27.5	0.55	310	2.73	6.000	7.815	0.426	**8.24**	**52.97**	113.5	300	11	0.30	174.207	173.867	0.340	0.75	0.030	177.596	3.078	3.666	178.056	CHECK HGL ELEV	OKAY
CONDO	PDC	8S8037	117.0	0.72	117	0.72	6.000	2.949	0.112	**3.06**	**46.38**	12.2	200	10	2.00	174.180	173.937	0.243	1.48	0.100	178.000	3.610	3.697	178.049	CHECK HGL ELEV	OKAY
BOWLER DR	7S8037	7S8036	12.0	0.24	439	3.69	6.000	11.066	0.576	**11.64**	**52.97**	51.8	300	11	0.30	173.837	173.682	0.155	0.75	0.050	177.844	3.696	3.640	178.048	CHECK HGL ELEV	OKAY
BOWLER DR	7S8036	7S8026	6.5	0.13	446	3.82	6.000	11.230	0.596	**11.83**	**52.97**	28.5	300	11	0.30	173.632	173.546	0.085	0.75	0.100	177.633	3.690	4.092	178.040	CHECK HGL ELEV	OKAY
0 SPITFIRE	PDC	7S8026	246.0	1.98	246	1.98	6.000	6.201	0.309	**6.51**	**52.97**	7.1	300	11	0.30	173.567	173.546	0.021	0.75	0.100	178.150	4.272	4.092	178.036	CHECK HGL ELEV	OKAY
SPITFIRE	7S8026	7S8025	0.0	0.06	1010	12.77	6.000	25.460	1.992	**27.45**	**52.97**	33.3	300	11	0.30	173.446	173.346	0.100	0.75	0.050	177.949	4.192	4.154	178.036	CHECK HGL ELEV	OKAY
SPITFIRE	7S8025	6S742	0.0	0.06	1010	12.83	6.000	25.460	2.001	**27.46**	**52.97**	60.7	300	11	0.30	173.296	173.114	0.182	0.75		177.811	4.204	-173.425	178.009	CHECK HGL ELEV	OKAY
Lauzon Rd	6S742	6S743	3598.0	48.61	4608	61.44	6.000	116.160	9.585	**125.74**	**162.45**	84.4	600	102	0.07	173.114	173.055	0.059	0.57					177.960	CHECK HGL ELEV	OKAY
Lauzon Rd	6S743	6S744	144.0	1.90	4752	63.34	6.000	119.790	9.881	**129.67**	**288.00**	106.1	600	102	0.22	173.055	172.822	0.233	1.02					177.925	CHECK HGL ELEV	OKAY
Lauzon Rd	6S744	6S745	95.0	1.28	4847	64.62	6.000	122.185	10.081	**132.27**	**138.66**	119.8	600	102	0.05	172.822	172.760	0.061	0.49					177.878	CHECK HGL ELEV	OKAY
Lauzon Rd	6S705	6S745	610.0	4.19	610	4.19	6.000	15.377	0.654	**16.03**	**55.47**	119.0	250	102	0.87	173.796	172.760	1.035	1.13					177.908	CHECK HGL ELEV	OKAY
Lauzon Rd	6S745	6S746	152.0	2.05	5609	70.86	6.000	141.394	11.054	**152.45**	**300.80**	109.1	600	102	0.24	172.760	172.499	0.262	1.06					177.822	CHECK HGL ELEV	OKAY
Lauzon Rd	6S746	6S3983	0.0	0.00	5609	70.86	6.000	141.394	11.054	**152.45**	**288.00**	32.7	600	102	0.22	172.499	172.427	0.072	1.02					177.755	CHECK HGL ELEV	OKAY
McHugh St	7S6385	6S3983	1887.0	24.35	1887	24.35	6.000	47.568	3.799	**51.37**	**237.81**	90.8	600	102	0.15	172.563	172.427	0.136	0.84					177.741	CHECK HGL ELEV	OKAY
Lauzon Rd	6S3983	6S747	175.0	2.37	7671	97.58	6.000	193.373	15.222	**208.60**	**229.74**	80.4	600	102	0.14	172.427	172.314	0.113	0.81					177.735	CHECK HGL ELEV	OKAY
Lauzon Rd	6S747	6S748	156.0	2.11	7827	99.69	6.000	197.306	15.552	**212.86**	**260.50**	111.6	600	102	0.18	172.314	172.113	0.201	0.92					177.642	CHECK HGL ELEV	OKAY
Lauzon Rd	6S710	6S748	1614.0	24.80	1614	24.80	6.000	40.686	3.869	**44.56**	**45.36**	119.0	300	11	0.22	172.375	172.113	0.262	0.64					177.760	CHECK HGL ELEV	OKAY
Lauzon Rd	6S748	6S3686	141.0	1.91	9582	126.40	6.000	241.546	19.718	**261.26**	**319.05**	81.6	600	102	0.27	172.113	171.893	0.220	1.13					177.508	CHECK HGL ELEV	OKAY

PROPOSED DEVELOPMENT